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# \*\*\*Aff\*\*\*

# \*\*\*Uniqueness\*\*\*

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**Not unique: China is inherently militarizing space and developing ASATs**

**Chase, 2011 – Ph.D. in international relations from Johns Hopkins, MA in China studies from SAIS, Johns Hopkins** [Michael S., March 25, 2011, Jamestown Foundation Publication, “Defense and Deterrence in China’s Military Space Strategy” <http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=37699&tx_ttnews%5BbackPid%5D=25&cHash=e3f0fcd233f563e2364ad7bc49425244>, accessed June 21, 2011]

China’s theory of space deterrence may be a work in progress, but Beijing is already developing an impressive array of counter-space systems. Indeed, the capabilities that China is working on go beyond the direct ascent anti-satellite (ASAT) weapon, successfully tested in January 2007. The test demonstrated its capability to destroy satellites in low-earth orbit and was followed by a missile intercept test in January 2010. According to the 2010 Department of Defense (DoD) report on Chinese military developments, "China is developing a multi- dimensional program to improve its capabilities to limit or prevent the use of space-based assets by potential adversaries during times of crisis or conflict" [1]. In addition to the direct ascent ASAT, China’s capabilities include foreign and domestically developed jamming capabilities, and the inherent ASAT capabilities of its nuclear forces. In addition, "China is developing other technologies and concepts for kinetic and directed-energy (e.g. lasers, high-powered microwave, and particle beam) weapons for ASAT missions" [2]. According to Chinese analysts, along with the increasing its importance for military and commercial reasons, space is becoming an important domain for the defense of national security and national interests [3]. Chinese strategists regard space as a crucial battlefield in future wars. Chinese military publications characterize space as the high ground that both sides will strive to control in informatized local wars because of its influence on information superiority and its importance in seizing the initiative in a conflict [4]. Chinese analysts write that space systems serve as key enablers by providing support in areas such as intelligence, surveillance, and reconnaissance (ISR), early warning, communications, navigation and positioning, targeting for precision weapons, surveying and mapping, and meteorological support. Chinese analysts also portray space systems as force multipliers that support joint operations and enhance the effectiveness of ground, air, and naval forces. In keeping with this emphasis on the importance of space systems in contemporary military operations, China is making major strides in improving its own space capabilities [5]. According to the 2010 DoD report, "China is expanding its space-based intelligence, surveillance, reconnaissance, navigation, and communications satellite constellations" [6]. As China places more satellites into orbit, the PLA’s reliance on space systems is growing. China’s military is becoming more dependent on space capabilities for intelligence, surveillance, reconnaissance, navigation and positioning, as well as communications. Chinese military publications suggest that China still sees itself as far less dependent on space than the United States, but they also recognize that with this increasing reliance on space comes greater vulnerability. Many Chinese analysts believe that China’s space systems face a variety of potential threats. Consequently, they argue that the PLA needs to be able to protect its space assets through defensive measures or deterrence.

**Continued military action in Middle-east causes china aggression**

**Payne, 5-31-11, independent progressive, U.S. Army veteran** [President Obama Faces Two Ultimatums; One By China, One By The American People, 6-21-11, http://www.opednews.com/author/author23439.html]

By his expansion of the Afghan War into the sovereign nation of Pakistan, President Obama and his military advisers have made a grievous mistake that could lead America to the brink of a massive Central Asian war. Pakistan, a nuclear power, is in a state of turmoil as its government and its people react with rage over the continued U.S. encroachment into their nation and the relentless attacks by deadly U.S. drones in civilian populated areas. What makes this situation even more volatile is the fact that, because of this increased U.S. military action, China has just recently issued a strong warning to the U.S. that an attack (meaning an attack using massive force) would be construed as an attack on China. China, which has very important interests and investments in Pakistan, will not allow them to be jeopardized by the increasing U.S. military actions in that nation. China, which has not been known to issue frivolous warnings, is giving the U.S. a strong, clear message in the form of an ultimatum.

# Uniqueness: Relations Low- Oil and Bin Laden

# US-China relations on the brink- oil prices and Bin Laden

**Allen. CNBC EMEA head of news. May10, 2011.** [Patrick. http://www.cnbc.com/id/42968112/Falling\_Oil\_Prices\_Bad\_for\_US\_China\_Relations\_Economist “falling oil prices bad for US/China relations: economist.” CNBC. Accessed June 20th.

The talks have been surprisingly low key, due in part to the US attention being focused on the death of Osama bin Laden and the markets' attention being focused on falling commodity prices and the euro zone crisis. One analyst though predicts the recent fall in oil and commodity prices could turn the heat up on US/Chinese relations in the coming months. “On the economic side, the atmosphere in the run-up to this year’s meeting has been the most positive since the financial crisis,” said Mark Williams, the senior China economist at Capital Economics, in a research note. His point is that higher commodity prices have led China’s trade surplus to, on the surface at least, come down to less than four percent of gross domestic product, compared with 10 percent on the eve of the financial crisis. “We doubt this will last. The speed at which the surplus has fallen over the last year can be entirely explained by the rise in commodity prices rather than any surge in real import demand,” Williams wrote. Overnight Chinese data showed the trade surplus for April coming in at $11.4 billion, nearly four times higher than the many in the market had been expecting, in a clear sign Williams is right. “For everything apart from commodities – including the bilateral surplus with the US – China’s surplus remains close to a record high,” he wrote. “For this reason, the surplus is likely to rebound rapidly if commodity prices continue to decline, potentially reawakening strains with the US. Nonetheless, for now, China can argue that its economy is rebalancing,” Williams added.

# Uniqueness: Relations Low – Arms Race and space technology

**1. China- US relations down- China is building up defense eventually causing a US-China arms race**

**Neill. January 11, 2011. Senior Research Fellow, Asian Studies. Head of the Asia Security Program at the Royal United Services Institute**. [Alexander, “Viewpoint: A New US-Sino high-tech arms race?” BBC News. http://www.bbc.co.uk/news/world-asia-pacific-12154991 accessed June 21st.]

Alexander Neill, head of the Asia Security Programme at the Royal United Services Institute, considers the apparent emergence of a new Sino-US high-tech arms race. Beneath the veneer of official smiles and neatly choreographed handshakes at the defence summit in Beijing, the Sino-US relationship remains fraught with uncertainty. A year after military relations were frozen by Beijing in the wake of a $6.4bn (£4.1bn) arms package to Taiwan, the US request for a resumption of a substantial strategic dialogue has been given a lukewarm reception in Beijing. The People's Liberation Army's (PLA) appetite for engagement with the US has waned considerably over the last year. Cementing its defence arrangement with Taiwan, and holding large-scale naval war games in China's back yard in recent months, the US has buttressed its alliances with its East Asian allies. These actions have fuelled resentment in China and fears of US military encirclement. US irritation is based on a recent spate of harassment by the PLA Navy and Chinese fishing vessels against the US Navy and its allies in the West Pacific. The US is also frustrated with China's intransigence towards meaningful strategic dialogue on international security concerns, particularly while tension on the Korean peninsula remains high and nuclear proliferation by North Korea continues unchecked. But the Pentagon's visceral concern is its failure to detect the break-neck speed of Chinese military technological advances and its ability to curb an arms race in East Asia. 'Pressure point warfare' Despite recent headlines reporting the appearance of a Chinese stealth fighter prototype, of more concern to US military planners is the enabling technology that will produce the bite to China's military bark. Photo apparently showing prototype of Chinese-made stealth bomber Photos of a possible working prototype of a Chinese-made stealth aircraft were recently leaked This angst is focused on China's decade-long programme of military "informationisation" designed to leap-frog over US capabilities in the Pacific region. The PLA is rapidly developing asymmetric warfare techniques against US command, control, communications, computers, intelligence, surveillance and reconnaissance infrastructure, known as "C4ISR" in military parlance. For China, with its inferior conventional military capabilities, the key to gaining the upper hand in a conflict with the US is to gain dominance of the space theatre and to damage its digital nerve system. China views space as a corner-stone of its future prosperity: a mandate from heaven for China's growth and military strength. For this reason, China is working hard to counter the Pentagon's monopoly in space and to build its own space-based deterrent. The PLA's doctrine of "pressure point warfare", a multi-layered approach using space, cyberspace and information operations alongside conventional capabilities is designed to cripple an adversary in one swift strike. This fast paced and high-tech military modernisation has led to the emergence of weapons systems and technology, which in certain theatres has closed the military capability gap with the US considerably. These include directed energy, jamming and cyber attack technologies, designed to paralyse the US military machine. The PLA has recently developed and successfully tested advanced anti-satellite (ASAT) weapons systems, demonstrating it can destroy or manoeuvre close to enemy satellites in space. ASAT weapons are part of a new genre of "assassin's mace" or surprise weapons aimed at the Pentagon's Achilles Heel in space and cyberspace. All of these capabilities require state of the art signals processing and communications systems, technology which China has been developing indigenously to create its own command and control architecture. Carrier fears One of the most pressing concerns for the United States navy is the prospect of US aircraft carriers and other vessels being denied access to theatres of operation in the event that the US were dragged into a conflict over Taiwan or in support of its other Pacific allies. US aircraft carrier USS George Washington, in the Sea of Japan on 10 December 2010 Could Chinese missile systems target US aircraft carriers in the region? Coined by Pentagon planners as China's "A2/AD" (Anti Access/Area Denial) strategy, the PLA would attempt to prevent US aircraft carriers from deploying to theatre, targeted by Chinese torpedoes, Cruise Missiles and Anti Ship Ballistic Missiles (ASBMs). PLA tacticians know that a successful strike against a moving US aircraft carrier requires advanced space-based targeting assets and an ability to penetrate the US ballistic missile defence umbrella. They also know that their land-based missiles are vulnerable to attack from the US. One solution is to develop a submarine-launched ballistic missile (SLBM) capability, something which is also causing for concern for US defence secretary Robert Gates. The PLA's latest weapons systems serve as an opportunity to showcase China's considerable achievements and provide an anchor for the legitimacy of the Chinese Communist Party. What the PLA is prepared to reveal in public is also directed at the domestic audience as much as abroad - hence the roll-out of the J-20 stealth fighter prototype and the likely launch of an aircraft carrier within a year or two. China, Taiwan and the United States do not want a confrontation; this would likely be a disaster of global proportions. However, as China's President Hu Jintao and his US counterpart Barack Obama prepare to meet next week, the potential for miscalculation and an East Asian arms race extending into the space domain creates a lingering atmosphere of uncertainty and mistrust in the region.

**2. US-China relations remain rocky and are likely not to get better due to weapons and military technology**

**Interview with Zhu Chenghu. June 7, 2011.** **Director of the Strategic Studies Department at the National Defense University**. [ “Boasting of rising China makes US nervous.” Global Times. http://opinion.globaltimes.cn/commentary/2011-06/662770\_2.html accessed on June 21st.]

PO: Could China and the US make substantial progress in the communication of military technology? What is hindering the exchange in this regard? Zhu: Under current circumstances, it is not very likely for the two countries to make substantial process in the exchange of military technology. There are many reasons for this. We cannot expect too much from it. US global strategy helps decide this. The US goal is to dominate the world, financially, politically, and militarily. There are structural conflicts in the Sino-US relationship. Such conflicts are brought about by the differences in political system, ideology, and values between the two countries. Actually, after the Cold War, particularly after China's reform and opening-up policy, the difference or contradiction in ideology has faded from China's memory. But I guess the US has never let go of this. I understand that the relationship between two big nations is naturally competitive, but that doesn't mean we can't cooperate with each other. For a long time, the cooperation between the two countries has mainly been in other fields and even in non-traditional security. But when it comes to military technology, cooperation becomes rather sensitive. Therefore, it is difficult for the US to share with us its technology while there is a tense competitive relationship. We had cooperated with the US in military technology before, but we were on the losing side in the process. I think Chinese should not rely on others for their national security. We need to make military breakthroughs ourselves. PO: How do you see the relation between a country's military expenditure and its military strength? In answering questions from a journalist in the US, Chen Bingde said China was 20 years behind in military equipment. How can we catch up? Zhu: I think Chen was just using a figure of speech to make it clear that we are not competing anyone in the development of weaponry and military equipment and we don't want to challenge US military dominance. But we do need to increase military investment, speed up the development of weaponry and equipment, and improve the training of the army and their ability in coping with all kinds of security threats. From reform and opening-up in the late 1970s to 1995 when Taiwan leader Lee Teng-hui visited the US, China's military expenditure was nearly stagnant. The increase in the past years has actually been catching up with what we should have spent earlier. As China is growing stronger, it should shoulder more international responsibilities. To do this, it needs the appropriate military training and technology. For instance, in the past, our navy never went beyond Chinese waters. But today, they are in the Gulf of Aden fighting against pirates and protecting convoys together with other countries in the territorial waters of other countries with the backing of the UN. Sometimes, when there is a natural disaster, our government needs to provide help and material relief for people in other countries, which also requires us to have modern equipment. PO: The US greatly supported China in both the War against Japanese Aggression (1937-45) and in the early stages of our reform and opening-up. Why can we not have a good relationship with the US, while we can get along well with Russia? Zhu: I admit that without the help from the US we might have lost more in the war and it might not have ended so soon. And after the then US President Richard Nixon visited China in 1972, the US also played an indispensable role in the process of reform and opening-up in China. But why have there been so many problems with the Sino-US relationship in recent years? I think US global strategy demands an opponent. Without a competitor, it would not be possible for the US to maintain a high military expenditure, nor would it be necessary for it to keep an enormous number of forces overseas. After the disintegration of the Soviet Union, some decision-makers and scholars in the US regarded China as a threat to global US hegemony, setting obstacles in the Sino-US relationship to hinder its development. But we also are at fault. It is true that we are developing, but are we really rising now? Is China developed enough to replace the US as No.1? Is it developed to a degree that China could seek hegemony through military strength? We should examine the remarks by some media and scholars in the past years about China's rise, our new power, and so on. Some even believed that there must be a war between China and the US. All these words inevitably would become excuses for the US to guard against or even contain China. PO: The military exchanges between China and the US are on and off and an effective and regular dialogue mechanism has not taken shape yet. What do you think are the main reasons for this? Zhu: I think there appeared a weird circle in the Sino-US relationship in the past years, that is, destroy-repair-destroy again-repair again. I think the US is mainly to blame for this. There are three major obstacles in the military relationship between China and the US: US arms sale to Taiwan, the National Defense Authorization Act and DeLay Amendment in 2000, and US spy missions over China's exclusive economic zones. The discontinuity of the military communication between the two countries actually all resulted from these three factors, particularly US arms sales to Taiwan. I want to remind you that it is na?ve to think Chen's visit to the US will lead the military relationship between China and the US to a healthy path, since the US now is planning another sale of F-16 C/D fighters to Taiwan, or helping Taiwan to upgrade its existing 145 F-16 A/B fighters to the C/D version.

# Uniqueness: Relations Low- Human Rights

**1. US-China relations low from Human Rights talks earlier this year**

**Johnson. April 22, 2011. Staff writer for the NY Times.** [Ian. “ Tension Precedes U.S.-China Meeting on Human Rights.” New York Times. http://www.nytimes.com/2011/04/23/world/asia/23china.html?ref=china Accessed June 21st]

BEIJING — The United States and China will have their annual meeting on human rights next week, but there are signs that the session may be more tense than usual. Related According to a statement issued by the State Department, the two sides are to meet Wednesday and Thursday in Beijing for what has become a regular springtime meeting on human rights. But the statement was highly unusual for several reasons, not least because Washington made the announcement for a meeting to be held in Beijing — which runs counter to diplomatic protocol — and because it was made just days before the event. Indeed, the Chinese government confirmed the meeting late Friday only after repeated calls to the Foreign Ministry. A day earlier, a ministry spokesman said details still had to be “discussed and arranged.” “Objectively speaking, the announcement is being made at the last minute,” said Joshua Rosenzweig of the Dui Hua Foundation, a rights group in Hong Kong. “It’s also interesting that the U.S. is making it unilaterally and that they’re using this language.” The American announcement bluntly says that the talks will focus on “the recent negative trend of forced disappearances, extralegal detentions and arrests and convictions” — highly unusual in such a statement and most likely reflecting Washington’s growing frustration with the human rights situation in China. China is in the midst of a crackdown on dissent in which dozens of lawyers and activists have been rounded up. Some have been detained for brief questioning; others have disappeared for months without a trace. The most prominent is Ai Weiwei, an artist and critic detained this month when trying to board a flight to Hong Kong. The immediate catalyst for the crackdown seems to have been a call by dissidents for Chinese to emulate the “jasmine” revolutions of North Africa. Even though few people heeded the calls to protest, the government has reacted strongly. Western human rights analysts say the clampdown shows the limits of government-to-government human rights dialogue. Besides the United States, other countries and the European Union have similar sessions, which usually take place in private once a year. Typically, Western countries bring up problems or lists of detained dissidents, and China responds by saying that it is a country ruled by laws, and that those people violated the law.

# Uniqueness: Relations low- space

**1. China’s space development is hurting already shaky relations with the US**

**Trivedi. June 16, 2011. A research analyst working on security and sustainable development in South and East Asia for Strategic Foresight Group.** [Sahiba, “Space: the final frontier of Sino-US rivalry?” Open Security. http://www.opendemocracy.net/opensecurity/sahiba-trivedi/space-final-frontier-of-sino-us-rivalry accessed June 21st.]

 China’s sky-high space ambitions have the potential to upset the current world order. Within the coming decade, China may become capable of challenging America’s dominance over space and its monopoly over global navigational systems. Over the past few years, China has engaged in completing high-profile, grand projects like high-speed rail, the world’s biggest airport terminal (since overtaken by Dubai) and the 2008 Beijing Olympics. Its space programme, like all else, is a matter of Chinese prestige. On successful completion, it will be yet another grand feather in China’s cap signalling its ambition of becoming a world power. China’s ambitious space programme has three tracks. Track one is the setting up of China’s own space station. The Chinese were successful in launching their first astronaut or taikonaut into space in 2003. Since then, China’s space programme has witnessed major breakthroughs. By summer 2011, it plans to launch its first unmanned space module called ‘Tiangong – 1’. The ‘Shenzhou – 8’, scheduled for later this year (2011), will attempt to dock with the ‘Tiangong – 1’. Both these launches are the initial stages of Chinese plans for setting up a space station by 2015. Once its space station is completed, China will become the third country in the world, after Russia and the US to do so with indigenous technology. The second track is China’s lunar ambitions, scheduled to be carried out over three phases. The first phase of this was successfully completed in October 2010 with the launch of the “Chang’e – 2” lunar orbiter. By 2020, China could actually land its first astronaut on the moon. The third track of its space programme involves the development of a Chinese global navigational system called ‘Beidou’. Until now, the US has had a monopoly over navigation systems with its global positioning system (GPS). China aims to make ‘Beidou’ available to Asia-Pacific by 2012, which will go global by 2020. China’s programme could have repercussions for the Sino-US relationship. Chinese President Hu Jintao’s recent US visit resulted in a number of trade and investment deals being inked between the two countries. However, space was not one of them even though according to Washington, the 4 main areas of potential cooperation with China include space alongside cyber-security, missile defense and nuclear weapons. But since mutual trust is important for any kind of cooperation between the two nations, space is a ‘no-go’. The US and Chinese space programmes cannot be compared directly. The American programme precedes China’s by at least 40 years and China has yet to land its first man on moon. The US satellite and spacecraft technology is still years ahead of China. But China is on the fast track right now. In 2011 alone, China aims to put more than twenty vehicles into space. Compared to this, the US space programme is in a state of inertia. It has had to scrap its ‘Constellation Program’ since the struggling American economy cannot afford the huge price tag attached to the programme at present. Details of the Chinese space programme remain undisclosed and even its civilian component is run primarily by its military. For the US, this limits strategic cooperation to a large extent. The US is also wary of China’s growing military ambitions. China has recently tested its first stealth fighter aircraft. Since space technology almost always has military uses like missile development and remote monitoring and control, it is likely that a successful space programme in China would bolster its military and naval prowess. Hence, the US is clearly uneasy about the programme even though the administration has downplayed reports of China’s goal of a manned moon mission. For China, the US skepticism over its space programme as well as its ban on high-tech exports to China is a hurdle to cooperation in space. The navigational system ‘Beidou’ is crucial for the Chinese military as presently it has to depend on the US GPS. The Chinese fear is that this GPS could be blocked or manipulated in case of a conflict. The US is also jittery because of fears of technology proliferation since China’s allies include countries like Pakistan, Iran and North Korea. Supremacy in space would also aid China in elevating it to the status of a global superpower. Commercially too, an advanced space programme could eventually result in China being first in the race to extract lunar resources like uranium and titanium. Over the next few years, it is unlikely that the speed of China’s progress in its space programme will go down. Also, as it achieves its goals, China’s programme will definitely make many countries around the world nervous. Hence, with each of China’s successes, the world will see other countries taking frantic action to catch up with it. It is also possible that with a robust and thriving space programme in its kitty, China may be the next nation to be included in International Space Station (ISS). Such a situation may lessen the atmosphere of mutual suspicion to a certain degree.

**2. US-China relations down each worried about the other’s space developments**

**Zhang. May 2011. Dr. BaoHui Zhang is a faculty researcher at the Learning Sciences Lab and an Assistant Professor in the Learning Sciences and Technologies Academic Group at the National Institute of Education (NIE), Nanyang Technological University in Singapore.** [Baohui, “The Security Dilemma in the U.S.-China Military Space Relationship: The Prospects for Arms Control.” University of California. Accessed June 20th]

The U.S.-China military space relationship has been driven by the security dilemma in international relations. China pursues military space capabilities in part to counter perceived national security threats posed by the U.S. quest for space dominance and missile defense. However, the current strategic adjustment by the Obama administration and the altered situation at the Taiwan Strait have moderated the bilateral security dilemma, offering an opportunity for arms control in outer space. KEYWORDS: space security, security dilemma, U.S.-China relations, space war, arms control China’s military space program and its strategies for space warfare have caused rising concerns in the United States. In fact, China’s military intentions in outer space have emerged as one of the central security issues between the two countries. In November 2009, after the commander of the Chinese Air Force called the militarization of space “a historical inevitability,” General Kevin Chilton, head of the U.S. Strategic Command, urged China to explain the objectives of its rapidly advancing military space program.1 Indeed, in the wake of China’s January 2007 anti-satellite (ASAT) test, many U.S. experts have attempted to identify China’s motives. One driver of China’s military space program is its perception of a forthcoming revolution. The People’s Liberation Army (PLA) sees space as a new and critical dimension of future warfare. The comment by the commander of the Chinese Air Force captures this perception of the PLA.2 In addition, China’s military space program is seen as part of a broad asymmetric strategy designed to offset conventional U.S. military advantages. For example, as observed by Ashley J. Tellis in 2007, “China’s pursuit of counterspace capabilities is not driven fundamentally by a desire to protest American space policies, and those of the George W. Bush administration in particular, but is part of a considered strategy designed to counter the overall military capabilities of the United States.”3 Richard J. Adams and Martin E. France, U.S. Air Force officers, contend that “Chinese interests in space weapons do not hinge on winning a potential U.S.-Chinese ASAT battle or participating in a space arms race.” Instead, they argue, China’s military space program is driven by a desire to “counter the space-enabled advantage of U.S. conventional forces.”4 This perspective implies that given the predicted U.S. superiority in conventional warfare, China feels compelled to continue its offensive military space program. Inevitably, this perspective sees China as the main instigator of a possible space arms race, whether implicitly or explicitly. China’s interpretation of the revolution in military affairs and its quest for asymmetric warfare capabilities are important for understanding the 2007 ASAT test. This article suggests that the Chinese military space program is also influenced by the security dilemma in international relations. Due to the anarchic nature of the world order, “the search for security on the part of state A leads to insecurity for state B which therefore takes steps to increase its security leading in its turn to increased insecurity for state A and so on.”5 The military space relationship between China and the U.S. clearly embodies the tragedy of a security dilemma. In many ways, the current Chinese thinking on space warfare reflects China’s response to the perceived U.S. threat to its national security. This response, in turn, has triggered American suspicion about China’s military intentions in outer space. Thus, the security dilemma in the U.S.-China space relationship has inevitably led to measures and countermeasures. As Joan Johnson-Freese, a scholar at the Naval War College, observed after the January 2007 ASAT test, China and the U.S. “have been engaged in a dangerous spiral of action-reaction space planning and/or activity.”6 This article, citing firsthand Chinese military sources, identifies the major factors contributing to the security dilemma that is driving China’s military space program. The first is China’s attempt to respond to perceived U.S. military strategies to dominate outer space. Chinese strategists are keenly aware of the U.S. military’s plan to achieve so-called full-spectrum dominance, and the Chinese military feels compelled to deny that dominance. The second factor is China’s concern about U.S. missile defense, which could potentially weaken Chinese strategic nuclear deterrence. Many PLA analysts believe that a multilayered ballistic missile defense system will inevitably compromise China’s offensive nuclear forces. China’s response is to attempt to weaken the U.S. space-based sensor system that serves as the eyes and brains of missile defense. Thus, U.S. missile defense has forced China to contemplate the integration of nuclear war and space warfare capabilities.

# Uniqueness-Chinese technological setbacks

**1. China has experienced many technological setbacks- failed satellites slow space development**

**Cliff. 2011. Senior political scientist at the RAND Corporation, P.H.D. in international relations.** [ Roger with Chad J. R. Ohlandt, Ph.D. Aerospace Engineering and Scientific Computing, and David Yang, Ph.D in politics at Princeton University. “ Ready for Takeoff-China’s Advancing Aerospace Industry.” RAND. <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA539926&Location=U2&doc=GetTRDoc.pdf> accessed June 24]

China has maintained a relatively high launch tempo of about one launch every two months, on average, for the past decade and is steadily increasing its total number of orbiting operational satellites. At the end of 2002, China had nine satellites in orbit (Guo, 2002). Today, it has an estimated 55 operational satellites, not including communications satellites owned and operated out of Hong Kong. Additionally, since 2002, there have been five recoverable photoreconnaissance satellite missions, three manned missions (manned spaceflight program), and two lunar observation missions, and a commercial communications satellite was successfully built and launched for Venezuela (“UCS Satellite Database”; “Long March [Chang Zheng],” 2010; “Chang’e Series,” 2010). Nonetheless, China’s space program has encountered significant technical problems, particularly with satellites. China’s domestically designed high-capacity communications satellite platform, called Dongfanghong 4 (DFH-4), has experienced multiple failures. The Huanjing series of environmental and disaster-monitoring satellites and the Haiyang series of oceanographic satellites, although they have experienced no known failures, are being deployed more slowly than originally announced. Three out of 10 Beidou-series PNT satellites have also experienced technical problems. It is not clear whether these problems are due to underlying design issues, insufficient quality control in construction, or simple poor luck, but China’s space capabilities will probably not develop as quickly as outlined in the “National Guidance for Medium- and Long-Term Plans for Science and Technology Development (2006–2020).” Nonetheless, comparison with the successes of China’s space program suggests that any technical problems will be overcome eventually. The ultimate effect on U.S. national security will be the same, but that effect might not emerge as quickly as current plans would imply. Despite some technical setbacks, Chinese satellites now provide increasingly sophisticated intelligence, surveillance, and navigation capabilities that have significantly advanced China’s military capabilities. Though the capabilities of the satellites fall short of U.S. standards, they are more than sufficient for most military purposes. China’s commercial space prospects seem more limited given extensive foreign competition, but its space launch program has achieved a number of successes that make it potentially appealing to other countries interested in launching commercial satellites.

# \*\*\*Links\*\*\*

# No Link- Asteroid Tracking

**Empirics prove, Asteroids have massive destructive capabilities.**

**Mosher ‘07** - Staff Writer for Space.com [Dave “Crater Could Solve the 1908 Tunguska Meteor Mystery” http://www.freerepublic.com/focus/f-news/1857424/posts 6/22/11]

In late June of 1908, a fireball exploded above the remote Russian forests of Tunguska, Siberia, flattening more than 800 square miles of trees. Researchers think a meteor was responsible for the devastation, but neither its fragments nor any impact craters have been discovered. Astronomers have been left to guess whether the object was an asteroid or a comet, and figuring out what it was would allow better modeling of potential future calamities.

**Asteroids are a global security concern. International search for technologies show development of tracking capabilities would be welcomed globally**

**CBC News**, 2/27/**08** [“Asteroid tracking plans win award” CBC News http://www.cbc.ca/news/technology/story/2008/02/27/tech-asteroid-earth.html 6/22/11]

 A team from the U.S. won the top prize in an international competition to solve a dilemma more commonly associated with Hollywood blockbusters like Armageddon and Deep Impact: How do you track an asteroid headed for Earth? The winning team, led by SpaceWorks Engineering Inc. of Atlanta working in conjunction with SpaceDev Inc. of Poway, Calif., won the Apophis Mission Design Competition's $25,000 US first-place prize on Tuesday, according to The Planetary Society, the space exploration advocacy group that held the contest. The competition takes its name from the asteroid 99942 Apophis, which scientists once calculated had a one in 42 chance of striking Earth in 2036. Further study has since scaled those odds back considerably, to about one in 45,000. The society's aim with the competition was to seek out new, more accurate methods of tracking an asteroid to give governments better information about whether or not a mission to deflect it off our path was necessary. Large asteroids can have a potentially disastrous impact if they strike the Earth. Scientists have theorized that a collision of an asteroid off the coast of the Yucatan Peninsula in Mexico 65 million years ago wiped out the dinosaurs by causing an upheaval in the planet's climate. The actual contest required teams to come up with a plan to track Apophis as it nears Earth. The winning team's plan, called Foresight, calls for a spacecraft to be equipped with a radio beacon and two tracking instruments and would launch aboard an Orbital Sciences Corp. Minotaur IV rocket sometime between 2012 and 2014. It would rendezvous with the asteroid some five to 10 months later, orbit it for a month to collect data, and then fly alongside it, using radio tracking from Earth to determine the exact orbit. The winning team said the total cost of the operation would be $137.2 million US. A team from the Georgia Institute of Technology, also of Atlanta, won the $5,000 US first-place prize awarded to students. The competition received 37 mission proposals from 20 countries, according to the Planetary Society, the international group founded in 1980 by Carl Sagan and other astronomers. NASA's Near-Earth Object (NEO) program office already tracks the paths of both near-Earth asteroids and comets. As of Jan. 20, 2008, the NEO office said it has discovered 5,086 near-Earth asteroids. In September 2007 NASA's Dawn spacecraft lifted off from Cape Canaveral on an eight year, 6.4 billion-kilometre mission to monitor the asteroids Vesta and Ceres. But both of these asteroids lie in the asteroid belt between Jupiter and Mars, and neither is seen as a danger to Earth.

**China supports Asteroid Tracking and is actively pursuing its capabilities as part of global efforts**

**Stone ’08,** Asia News Editor of Science, the international weekly magazine [Richard, “”Near-Earth Objects: Preparing for Dooms Day” <http://www.fr.sott.net/articles/show/150527-NEAR-EARTH-OBJECTS-Preparing-for-Doomsday>, 6/22/11]

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On a ridge in this quiet, dark corner of southeastern China, about 100 kilometers northwest of Nanjing, XuYi's new 1-meter telescope espies a few dozen asteroids on a good night. Most are known to science. But since China's first telescope dedicated to asteroid detection saw first light early last year, Zhao's team has discovered more than 300 asteroids, including a near-Earth object (NEO), the class of asteroids and comets that could smash into our planet, if fate would have it. China's asteroid hunters are the latest participants in a painstaking global effort to catalog NEOs. Close encounters with asteroids in recent years--and comet Shoemaker-Levy's spectacular death plunge into Jupiter in 1994--have spurred efforts to find the riskiest NEOs before they blindside us. Tracking potentially hazardous objects--NEOs passing within 0.05 astronomical units, or 7.5 million kilometers, of Earth's orbit--is essential for any attempt to deflect an incoming rock. The first test of our planet's defenses could be Apophis, an asteroid the size of a sports arena that made the world sweat for a few days in December 2004, when calculations suggested as great as a 1 in 37 chance of an impact in 2029. Although further data ruled out that day of reckoning, another could be looming. In April 2029, Apophis will pass a mere 36,350 kilometers from Earth, inside the orbits of geostationary satellites. If it enters a keyhole--a corridor of space barely wider than the asteroid itself where gravitational forces would give it a tug--it will end up on a trajectory that would assure a collision 7 years later: on 13 April 2036, Easter Sunday. The odds of Apophis threading the needle are currently 1 in 45,000--but dozens of factors influence asteroid orbits. Researchers will get a better look during Apophis's next appearance in our neighborhood in 2012.

**Cooperation is key to protect against NEOs**

**Stone ’08,** Asia News Editor of Science, the international weekly magazine [Richard, “”Near-Earth Objects: Preparing for Dooms Day” <http://www.fr.sott.net/articles/show/150527-NEAR-EARTH-OBJECTS-Preparing-for-Doomsday>, 6/22/11]

Eventually, an asteroid with our name on it will come into focus, forcing an unprecedented decision: whether to risk an interdiction effort. "The very concept of being able to slightly alter the workings of the cosmos to enhance the survival of life on Earth is staggeringly bold," says Russell Schweickart, chair of the B612 Foundation, a Sonoma, California, nonprofit that lobbies for NEO deflection strategies. We have the means to deflect an asteroid--indeed, "it's really the only natural hazard that we can possibly prevent," says NEO specialist David Morrison, an astrobiologist at NASA's Ames Research Center in Mountain View, California. There is one "fatal missing element," says Schweickart, who in 1969 piloted the lunar module for the Apollo 9 mission: "There is no agency in the world charged with protecting the Earth against NEO impacts." He and others hope to change that. Wake-up calls Like any natural disaster, impacts occur periodically; gargantuan impacts are so rare that their frequency is hard to fathom. Every 100 million years or so, an asteroid or a comet a few kilometers or more in width--a titan like the rock thought to have wiped out the dinosaurs 65 million years ago--smacks Earth. "This is not just getting hit and killed," says Edward Lu, a former astronaut who now works for Google. "You're on the other side of the Earth and the atmosphere turns 500° hotter. Lights out."

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**Chinese researchers already collaborating with US scientists on NEO research**

**Stone ’08,** Asia News Editor of Science, the international weekly magazine [Richard, “”Near-Earth Objects: Preparing for Dooms Day” <http://www.fr.sott.net/articles/show/150527-NEAR-EARTH-OBJECTS-Preparing-for-Doomsday>, 6/22/11]

Zhao's team is working fast to stake NEO claims before Pan-STARRS, the first Spaceguard II facility, starts gobbling up the heavens. The telescope on Mount Haleakala on Maui Island, Hawaii, has a charge-coupled device camera with 1.4 billion pixels--the highest resolution in the world--that acquires images every 30 seconds. Pan-STARRS, which saw first light last August, will usher in a new paradigm in observational astronomy (Science, 12 May 2006, p. 840). "It's a set of surveys that will be analyzed in a wealth of different ways," says Kenneth Chambers, an astronomer with the Institute for Astronomy (IfA) at the University of Hawaii, Manoa, who is leading a consortium of 300 scientists whose institutions have paid for first crack at Pan-STARRS gold. Some will map the Milky Way or look for distant quasars. Others will hunt for asteroids. "The astronomical community is not ready for the fire hose of data that's going to hit them," Chambers says. Once Pan-STARRS begins taking data in earnest this summer, NEO finds should come thick and fast. According to IfA astronomer Robert Jedicke, who led development of the software that will cull NEOs from the data deluge, Pan- STARRS will be 10 times more effective at spotting NEOs than all current surveys combined. "Are there many more objects like Apophis out there? This is something that Pan-STARRS will answer," says IfA Director Rolf-Peter Kudritzki. Magnificent feats of detection are also expected from LSST, which will have 24 times greater survey power than Pan-STARRS. Like its Hawaiian rival, the $389 million project has broad science objectives, including studying dark energy and dark matter and mapping the Milky Way. Unlike Pan-STARRS, LSST data will be available immediately to any researcher. Construction is expected to begin in 2011 at Cerro Pachón, Chile.

**NEOs threaten whole world and have a unifying effect on politics as Earth is faced with destruction from beyond**

**Stone ’08,** Asia News Editor of Science, the international weekly magazine [Richard, “”Near-Earth Objects: Preparing for Dooms Day” <http://www.fr.sott.net/articles/show/150527-NEAR-EARTH-OBJECTS-Preparing-for-Doomsday>, 6/22/11]

The "threshold of pain," as Lu calls it, may depend on who would be affected--and what resources they have. Based on current calculations, the line where Apophis might hit--the so-called risk corridor--runs from Kazakhstan through Siberia, over the northern Pacific, and across Costa Rica, Colombia, Venezuela, and the south Atlantic. Who would mount and pay for a deflection mission? All countries along the corridor? Just Russia, vulnerable to a direct hit, or the United States, vulnerable to a towering tsunami? The United Nations? What if a mission failed, deflecting Apophis to another point on the risk corridor, converting an "act of God" into an act of humankind? Who would be liable? As experts grapple with these questions, some are trying to rouse political leaders. With outside advice, the Association of Space Explorers, an organization of astronauts and cosmonauts based in Houston, Texas, is drafting an NEO Deflection Decision Protocol to present to the U.N.'s Committee on the Peaceful Uses of Outer Space in 2009. "Apophis should unite our efforts to deal with the threat," says Shustov, who is leading an effort to develop Russia's first national R&D program on NEO hazards.

**Asteroid Tracking is key to prevent miscalculation and war**

**Stone ’08,** Asia News Editor of Science, the international weekly magazine [Richard, “”Near-Earth Objects: Preparing for Dooms Day” <http://www.fr.sott.net/articles/show/150527-NEAR-EARTH-OBJECTS-Preparing-for-Doomsday>, 6/22/11]

Shustov's nightmare is that leaders will drag their feet until the threat of a direct hit becomes real. But an asteroid need not impact to cause chaos. **Each year, military satellites detect several 1-kiloton explosions of asteroids in the upper atmosphere, and every several years, a much larger explosion of 10 kilotons or more, says Sandia's Boslough. "They are quite frightening to people on the ground."** A bus-size meteoroid would explode in the stratosphere with the energy of a small atomic bomb, producing a blinding flash much brighter than the sun, says Chapman. "Military commanders in a region of tension might regard it as the hostile act of an enemy and retaliate," he says. A 25-kiloton airburst occurred over the Mediterranean Sea on 6 June 2002. Imagine, Chapman says, "if that had happened instead in the vicinity of Kashmir, where tensions between India and Pakistan were elevated."

# No Link- Space Debris Aff

**Space Debris threatens international Space assets**

**Space.com** 5/25/**09** [“Space Debris Cleanup Suggestions Ignored” <http://www.space.com/6488-space-debris-cleanup-suggestions.html> 6/22/11]

Space debris cleanup suggestions by fiction writers have been made repeatedly; all have been ignored by the world's space agencies. Now, we have a real problem. This past week, ISS astronauts have ducked into a Russian space capsule for [protection](http://www.space.com/6488-space-debris-cleanup-suggestions.html) from space debris: The three astronauts, two Americans and one Russian, moved into the station's attached Soyuz TMA-13 spacecraft at 12:35 p.m. EDT (1635 GMT) as a safety precaution in case the debris — a small piece of a spent satellite motor — slammed into the orbiting lab and ripped a hole in its outer hull. The astronauts were ready to evacuate the space station if the debris hit the station and depressurized its living space. This follows the incident last month in which a Russian cosmos 2251 satellite improbably collided with an Iridium 33 satellite, creating enormous debris clouds: According to an e-mail alert issued by NASA today, Russia's Cosmos 2251 satellite slammed into the Iridium craft at 11:55 a.m. EST (0455 GMT) over Siberia at an altitude of 490 miles (790 km). The incident was observed by the U.S. Defense Department's Space Surveillance Network, which later was tracking two large clouds of debris. Satellite debris has been a problem for many years. Of course, you'd think NASA and all the other space agencies would be ready with a [solution](http://www.space.com/6488-space-debris-cleanup-suggestions.html). Wrong.

**world with an energy conversion efficiency of 35.8**

**Space Debris threatens international Space assets**

**Imburgia 4/4/11,** United States Air Force Academy Lieutenant Colonel,Judge Advocate in the US Air Force, legal exchange officer to the Directorate of Operations and International Law, Tennessee and Supreme Court of the United States bars, member of the Australian and New Zealand Society of International Law. [Lieutenant Colonel Joseph S., “Space Debris and Its Threat to National Security: A Proposal for a Binding International Agreement to Clean Up the Junk” aw.vanderbilt.edu/publications/journal-of-transnational.../download.aspx? 6/22/11]

In 1986, the Soviet representative to the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) “was of the view that the space debris problem affecting the space environment must be dealt with immediately.”**3** Almost twenty-five years later, the international community still has not sufficiently dealt with the problem. Sadly, space debris continues to threaten the survivability of space-based assets and manned spaceflight. On

March 12, 2009, space debris forced astronauts aboard the International Space Station to take shelter in an escape capsule out of fear that debris would collide with the station.**4** Based on the current space debris environment and the very real threat it poses, it is now time for the international community to heed the Soviet representative’s advice and deal with the space debris problem. The solution to that problem needs to come in the form of a binding international agreement.

**China has felt impact of space debris, both US & China best interest to solve debris problem**

**Imburgia 4/4/11,** United States Air Force Academy Lieutenant Colonel,Judge Advocate in the US Air Force, legal exchange officer to the Directorate of Operations and International Law, Tennessee and Supreme Court of the United States bars, member of the Australian and New Zealand Society of International Law. [Lieutenant Colonel Joseph S., “Space Debris and Its Threat to National Security: A Proposal for a Binding International Agreement to Clean Up the Junk” aw.vanderbilt.edu/publications/journal-of-transnational.../download.aspx? 6/22/11]

 Without a binding international agreement, the problem will only continue to worsen. According to scientists at the National Aeronautics and Space Agency (NASA), more than 5,500 tons of space debris orbited Earth in 2006.**5** Unfortunately, the space debris problem has worsened drastically in the years since.**6** During 2007, the explosion of a Russian rocket and the Chinese destruction of one of its own weather satellites during an anti-satellite (ASAT) mission created potentially millions of new pieces of space debris.**7** In February 2009, a collision between a defunct Russian communications satellite and a privately owned Iridium telecommunications satellite created possibly thousands more.**8** This recent creation of so much space debris is unprecedented, and the wreckage could soon damage or destroy other working satellites.**9** Such a sudden and massive addition to the space debris environment is cause for concern. In fact, some experts fear that we have reached the point that space is so cluttered with debris that a chain reaction of collisions, severely jeopardizing sustainable space access, is unavoidable unless international action is taken soon.**10** This Article argues that international action must be in the form of a binding international agreement on space debris. The agreement at Annex A provides a starting point for discussion. Without legal consequences, including appropriate international sanctions for treaty violations, little international influence exists to compel space-faring nations to find a viable solution to this problem. Moreover, space debris threatens the durability and survivability of the space assets on which the United States so heavily depends for its national security.**11** It is therefore in the United States’ best interest to support a binding international agreement to deal with the removal and mitigation of space debris. To demonstrate the urgency of the problem and highlight the need for a binding international agreement on space debris, this Article first examines the amount of space debris currently in existence and the predictions for future additions. It then discusses the United States’ reliance on the unhindered use of space for national security and demonstrates why a space debris threat to American space assets presents an immediate and serious concern to the United States. The Article then analyzes the 1967 Outer Space Treaty,**12** the 1972 Liability Convention,**13** and the 1975 Registration Convention**14** to show that these treaties are, by their terms, insufficient to deal with the space debris problem. Next, the Article illustrates why no other international agreement adequately addresses or demands the removal of space debris currently in Earth’s orbit. Consequently, to better preserve and protect the national security interests of the United States by assuring access to space and the freedom to operate there, the United States must pursue a binding international agreement with real consequences, and it must persuade the international community to follow its lead. Definitions for both “space” and “space debris” are needed in such an agreement. Additionally, countries must be required to do at least three things: (1) minimize the creation of space debris; (2) make efforts to rid the space environment of the debris they create or have already created; and (3) notify each other when they cause space debris. The proposed agreement at Annex A addresses each of these issues. An agreement is necessary because of both the gloomy future presented by an unresolved space debris problem and the lack of adequate international law in this area. II. THE MEASURABLE PROBLEM OF SPACE DEBRIS The phrase “space debris” is generally described as “a blanket term for any man-made artifact discarded, or accidentally produced, in space, either in orbit around a planetary body (when it is also known as orbital debris) or on a trajectory between planetary bodies.”**15** Space debris typically consists of fragments of older satellites and rocket boosters resulting from explosions or collisions.**16** Space debris, however, also includes “dead satellites, spent rocket stages, a camera, a hand tool and junkyards of whirling debris left over from chance explosions and destructive tests.”**17** In addition to the space debris created during the satellite collision of February 10, 2009,**18** some of the newest space debris includes a $100,000 set of grease guns and other tools that Space Shuttle Endeavour astronaut Heidemarie Stefanyshyn-Piper lost during a space walk on November 19, 2008.**19** These recent additions to the space debris population intensify a problem that began on October 4, 1957, when the former Soviet Union launched the first satellite, Sputnik 1, into space.**20** Since that date, space-faring nations have launched objects into space at a frenetic pace. Those launches have, in turn, created a considerable amount of space debris.**21** In October 2010, Air Force Space Command’s (AFSPC) Space Surveillance Network was tracking over 21,000 man-made objects orbiting Earth that were larger than ten centimeters.**22** Unfortunately, fewer than 5 percent of those 21,000 man-made objects are operational satellites; the rest are debris.**23** Even worse, scientists currently estimate “that there are over 300,000 objects with a diameter larger than one centimeter, and several million that are smaller,” orbiting in space, and a large majority of these objects are man-made space debris.**24**  Historically, explosions have been the biggest cause of space debris.**25** That fact, however, is about to change. Due to the amount of space debris that currently exists, several NASA computer “models predict that more [space] debris will be generated by collisions, rather than explosions, in the future.”**26** As a result of this outer space clutter, Earth’s orbital region has become, in just over fifty years, “the junkyard of the solar system.”**27** This orbital junkyard is already hindering our utilization of outer space. In recent years, the vast amount of space debris has affected space launch schedules and caused in-space collisionavoidance maneuvering. On March 12, 2009, the near collision of space debris with the International Space Station (ISS) caused the ISS crew to temporarily evacuate into a Russian escape capsule docked with the station.**28** This was the second time in less than a year that space debris threatened the ISS,**29** and it highlighted a list of nine 2009 space debris collision-avoidance maneuvers by satellites under NASA’s control.**30** Since February 2009, over thirty-two collision-avoidance maneuvers have been reported, including one by China.**31** Concerns with space debris also threatened a space shuttle launch in fall 2008, as NASA warned that the risk of a catastrophic collision between space debris and the shuttle exceeded the norm.**32** Earlier that year, in order to ensure that an Atlas V rocket carrying a secret payload into space did not collide with space debris, the United States was forced to delay the rocket’s launch for two weeks.**33** Additionally, in 2005, a spacecraft that is a major part of NASA’s Earth Observing System successfully performed a small collisionavoidance maneuver to ensure that it did not collide with space debris.**34** 4. China Is Not the Only Culprit; Russia and the United States Are Also to Blame Although China drastically increased the space debris population through its 2007 ASAT mission, it is certainly not the only originator of space debris. As evidenced by the February 2009 satellite collision, Russia and the United States are also responsible.**108** With its January 2007 ASAT mission, China is the number one space polluter per satellite in terms of the ratio of space debris created to satellites launched.**109** However, the United States and Russia rank second and third respectively.**110**

**China wants to cooperate with US on Constellation, Top officials urge joint pursuit of manned space flight**

**Space news.com 4/14/11** [“Chinese Government Official Urges U.S.-Chinese Space Cooperation” [http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html 6/23/11](http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html%206/23/11)]

A top Chinese government space official on April 14 appealed to the U.S. government to lift its decade-long ban on most forms of U.S.-Chinese space cooperation, saying both nations would benefit from closer government and commercial space interaction. He specifically called for cooperation on manned spaceflight, in which China has made massive investment in recent years. Lei Fanpei, vice president of China Aerospace Science and Technology Corp. (CASC), which oversees much of China’s launch vehicle and satellite manufacturing industry, said China purchased more than $1 billion in U.S.-built satellites in the 1990s before the de facto ban went into effect in 1999. Since then, the U.S. International Traffic in Arms Regulations (ITAR) have made it impossible to export most satellite components, or full satellites, to China for launch on China’s now successful line of Long March rockets.

**Collaboration coming, China and US moving back towards collaboration of early 90s, US government reviewing ITARs .**

**Space news.com 4/14/11** [“Chinese Government Official Urges U.S.-Chinese Space Cooperation” [http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html 6/23/11](http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html%206/23/11)]

The ITAR regulations that tightened the U.S. technology export regime were put into place to punish China for its missile exports, and to slow development of China’s rocket industry by reducing its customer base. Most commercial telecommunications satellites carry at least some U.S. parts, which is why ITAR has all but locked China out of the global commercial launch market. The U.S. government is reviewing the current ITAR regime, which U.S. industry says has had the unintended effect of making it difficult to sell satellites and satellite components just about anywhere in the world. At the same time, China’s domestic demand for launches of its own telecommunications, navigation, Earth observation and science satellites — and its manned space program — has given the Long March vehicle sufficient business to earn it a record of reliability. The global insurance underwriting community now ranks the Long March vehicle alongside Russian and European rockets for reliability when it sets insurance premiums. Addressing the National Space Symposium here, Lei said Chinese vehicles launched more than 20 U.S.-built satellites in the 1990s. While cooperation with the United States has been shut down, he said, China has maintained relations with the 18-nation European Space Agency, Brazil, France, Russia and others. China also has developed a telecommunications satellite product line that has been bundled with a Chinese Long March vehicle to offer in-orbit delivery of telecommunications spacecraft to a half-dozen nations that in many cases can offer China access to their crude oil reserves. Lei said he sees three areas in which U.S.-Chinese cooperation would be in both nations’ interests. The first, he said, is an open commercial access of each nation to the other’s capabilities in satellites and launch vehicles. The second, he said, is manned spaceflight and space science, particularly in deep space exploration. The third is in satellite applications including disaster monitoring and management.

# No Link-SPS Aff

**China’s growth necessitates an alternative energy source- Solar power is ideal**

**The Space Review ’07** [“China, the US, and space solar power” <http://www.thespacereview.com/article/985/1>, 6/23/11]

Now that the National Security Space Office’s (NSSO) space solar power study has been released and shows that the technology is well within America’s grasp, a set of decisions have to be made concerning how the US government should proceed. The idea that the government should fund a series of demonstration projects, as the study recommends, is a good place to start. Another aspect should be to study the impact that this technology will have on the political and economic future of the world. The biggest factor in world affairs in the next twenty or so years is the rise of China to true great power status. Leaving aside the political vulnerabilities inherent in any communist regime, the greatest danger to China’s future prosperity is its huge need for energy, especially electricity. According to an International Energy Agency estimate, demand for electricity in China will grow at an average annual rate of 4.8% from 2003 and 2025. At some point within the next twenty or thirty years China will face an energy crisis for which it will be almost certainly unprepared. Only a new source of electrical energy will insure that such a nightmare never happens. China is already experiencing shortages. The Yangtze Delta region, which includes Shanghai and the provinces of Jiangsu and Zhijiang and contributes almost 20% of China’s GDP, faced capacity shortages of four to five gigawatts during peak summer demand in 2003. In spite of a furious effort to develop new power sources, including dam building and new coal-fired power plants, China’s economic growth is outstripping its capacity to generate the terawatts needed to keep it going. While China may turn to widespread use of nuclear power plants, the Communist Party leadership is certainly aware of the role that glasnost and the Chernobyl disaster played in the downfall of another Communist superpower. Thus, China may be reluctant to rely heavily on nuclear power plants, at least not without strong safety measures, thus making them more expensive and more time consuming to build. Wind power and terrestrial solar power will not be able to contribute much to meeting China’s demand and certainly not without government subsidies which a relatively poor nation such as China will be reluctant to provide. At some point within the next twenty or thirty years China will face an energy crisis for which it will be almost certainly unprepared. The crisis may come sooner if, due to a combination of internal and external pressures, the Chinese are forced to limit the use of coal and similar fuels. At that point their economic growth would stall and they would face a massive recession. Only a new source of electrical energy will insure that such a nightmare never happens. The global repercussions would be disastrous. In the near term the only new source of electric power that can hope to generate enough clean energy to satisfy China’s mid- to long-term needs is space based solar power. The capital costs for such systems are gigantic, but when compared with both future power demands and considering the less-than-peaceful alternative scenarios, space solar power looks like a bargain.

**U.S. would supply China with SPS technologies, furthering peaceful cooperation**

**The Space Review ’07** [“China, the US, and space solar power” <http://www.thespacereview.com/article/985/1>, 6/23/11]

For the US this means that in the future, say around 2025, the ability of private US or multinational firms to offer China a reliable supply of beamed electricity at a competitive price would allow China to continue its economic growth and emergence as part of a peaceful world power structure. China would have to build the receiver antennas (rectennas) and connect them to its national grid, but this would be fairly easy for them, especially when compared to what a similar project would take in the US or Europe when the NIMBY (Not In My Back Yard) factor adds to the time and expense of almost any new project. Experiments have demonstrated, at least on a small scale, that such receivers are safe and that cows and crops can coexist with them. However, there are persistent doubts and it would be wise to plan for a world in which rectenna placement on land will be as politically hard as putting up a new wind farm or even a nuclear power plant. China, like its neighbors Japan and Korea, has a land shortage problem. This may seem odd when one looks at a map, but the highly productive industrial regions of China are confined to a limited coastal area. These areas also overlap with some of the nation’s most fertile agricultural lands. Conflicts caused by hard choices between land use for factories and housing and for food production are now common. Building the rectennas at sea would help alleviate some of these disputes. China and its neighbors could compete to see who could build the most robust and cost-effective sea-based rectennas. They would also be able to export these large systems: a system that can survive the typhoons in the South China Sea can also handle the monsoons of the Bay of Bengal or the hurricanes of the Caribbean. Our world’s civilization is going to need all the energy it can get as China and other nations attain Western lifestyles. Clean solar power from space is the most promising of large-scale alternatives. In spite of the major advances that China has made in developing its own space technology, it will be many years before they can realistically contemplate building the off-Earth elements of a solar power satellite, let alone a lunar-based system. Even if NASA administrator Mike Griffin is right and they do manage to land on the Moon before the US gets back there in 2020, building a permanent base and a solar panel manufacturing facility up there is beyond what can reasonably be anticipated. If the US were to invest in space-based solar power it would not be alone. The Japanese have spent considerable sums over the years on this technology and other nations will seek the same advantages described in the NSSO study. America’s space policy makers should, at this stage, not be looking for international partners, but instead should opt for a high level of international transparency. Information about planned demonstration projects, particularly ones on the ISS, should be public and easily accessible. Experts and leaders from NASA and from the Energy and Commerce departments should brief all of the major spacefaring nations, including China. Our world’s civilization is going to need all the energy it can get, especially in about fifty years when China, India, and other rising powers find their populations demanding lifestyles comparable to those they now see the West enjoying. Clean solar power from space is the most promising of large-scale alternatives. Other sources such as nuclear, wind, or terrestrial solar will be useful, but they are limited by both physics and politics. Only space solar power can be delivered in amounts large enough to satisfy the needs of these nations. As a matter of US national security it is imperative that this country be able to fulfill that worldwide demand. Avoiding a large-scale future war over energy is in everyone’s interest.

# No Link- Constellation Aff

**China wants to cooperate with US on Constellation, Top officials urge joint pursuit of manned space flight**

**Space news.com 4/14/11** [“Chinese Government Official Urges U.S.-Chinese Space Cooperation” [http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html 6/23/11](http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html%206/23/11)]

 A top Chinese government space official on April 14 appealed to the U.S. government to lift its decade-long ban on most forms of U.S.-Chinese space cooperation, saying both nations would benefit from closer government and commercial space interaction. He specifically called for cooperation on manned spaceflight, in which China has made massive investment in recent years. Lei Fanpei, vice president of China Aerospace Science and Technology Corp. (CASC), which oversees much of China’s launch vehicle and satellite manufacturing industry, said China purchased more than $1 billion in U.S.-built satellites in the 1990s before the de facto ban went into effect in 1999. Since then, the U.S. International Traffic in Arms Regulations (ITAR) have made it impossible to export most satellite components, or full satellites, to China for launch on China’s now successful line of Long March rockets.

**Collaboration coming, China and US moving back towards collaboration of early 90s, US government reviewing ITARs.**

**Space news.com 4/14/11** [“Chinese Government Official Urges U.S.-Chinese Space Cooperation” [http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html 6/23/11](http://www.spacenews.com/civil/110414-chinese-official-space-cooperation.html%206/23/11)]

The ITAR regulations that tightened the U.S. technology export regime were put into place to punish China for its missile exports, and to slow development of China’s rocket industry by reducing its customer base. Most commercial telecommunications satellites carry at least some U.S. parts, which is why ITAR has all but locked China out of the global commercial launch market. The U.S. government is reviewing the current ITAR regime, which U.S. industry says has had the unintended effect of making it difficult to sell satellites and satellite components just about anywhere in the world. At the same time, China’s domestic demand for launches of its own telecommunications, navigation, Earth observation and science satellites — and its manned space program — has given the Long March vehicle sufficient business to earn it a record of reliability. The global insurance underwriting community now ranks the Long March vehicle alongside Russian and European rockets for reliability when it sets insurance premiums. Addressing the National Space Symposium here, Lei said Chinese vehicles launched more than 20 U.S.-built satellites in the 1990s. While cooperation with the United States has been shut down, he said, China has maintained relations with the 18-nation European Space Agency, Brazil, France, Russia and others. China also has developed a telecommunications satellite product line that has been bundled with a Chinese Long March vehicle to offer in-orbit delivery of telecommunications spacecraft to a half-dozen nations that in many cases can offer China access to their crude oil reserves. Lei said he sees three areas in which U.S.-Chinese cooperation would be in both nations’ interests. The first, he said, is an open commercial access of each nation to the other’s capabilities in satellites and launch vehicles. The second, he said, is manned spaceflight and space science, particularly in deep space exploration. The third is in satellite applications including disaster monitoring and management.

# No Link- Asteroid Mining Aff

**China’s near monopoly , huge demand , and production of finite rare earth metals make asteroid mining key to prevent resource wars**

**Popular Science’10** [“Amid Strained Trade Relations with China, Japan Strikes Rare-Earths Deal with Vietnam” <http://www.popsci.com/science/article/2010-11/amid-strained-trade-relations-china-japan-strikes-rare-earths-deal-vietnam> 6/24/11]

Rare Earth Exports Held at Chinese Loading Docks Though Chinese officials deny it, sources in the industry say Chinese exports of critical rare earth elements bound for the U.S. and Europe are being held up by customs officials in China. In the midst of what’s been shaping up as an undeclared rare earths standoff between China and some of it’s biggest customers in Japan and the West, Vietnamese and Japanese leaders have decided to collaborate in the exploitation of northern Vietnam’s rare earth elements. The deal was hammered out between the two nations’ prime ministers during a meeting on Sunday. Back in September it was reported that Chinese customs officials had halted shipments of rare earths elements to Japan though no official embargo was declared by the Chinese government. Two weeks ago it was further reported that China had expanded the rare earths suspension to include the U.S. and Europe. China exports more than 95 percent of the world’s supply of rare earth elements, which are necessary materials for the manufacture of a vast variety of modern goods, ranging from hybrid car engines to wind turbines to weapons systems to personal electronics. Japan’s decision to seek out non-Chinese sources of rare earths comes as the Geological Society of America considers the role of rare earths in an alternative energy future at the group’s annual meeting on Tuesday. In a paper that will be presented tomorrow, geologist point out that rare earth elements and other scarce metals are the backbones of alternative energy tech like photovoltaic cells, wind turbine magnets, high-capacity battery tech, and fuel cells. Because the U.S. hasn’t tapped its domestic resources of rare earths – and won’t be able to produce an independent supply chain for at least fifteen years according to GAO estimates – any shift to an alternative energy economy would simply trade one foreign dependency for another. That could set the stage for trade wars as China needs more of its neodymium, gallium, zinc, lithium, and various rare earth elements to pursue its ambitious alternative energy plans. Japan will help the Vietnam explore and survey its northern provinces for future rare earth element exploitation and help the Vietnamese develop environmentally friendly technologies for extraction and processing of the elements, but at best it would be a few years before meaningful production and export would begin. The U.S. will keep seeking out rare earths at home and keep leaning on China to keep the exports coming. And global economies will keep its fingers crossed that China does so.

**China interested in mining now, massive support for programs and increase in science and technology fields prove**

**Washington Post ‘08** [“Space Inspires Passion And Practicality in China” [http://www.washingtonpost.com/wp-dyn/content/article/2008/09/23/AR2008092302649.html 6/24/11](http://www.washingtonpost.com/wp-dyn/content/article/2008/09/23/AR2008092302649.html%206/24/11)]

BEIJING -- When he's in Beijing for meetings, Ouyang Ziyuan works out of an office overlooking the new Olympic Green, home to the Water Cube aquatics center and the Bird's Nest national stadium, the latest icons of China's coming of age.

On one wall of that office hangs a large image of the moon; on the wall opposite, there's Mars. Both pictures were shot from U.S. satellites. Ouyang should soon be able to replace one of those with the next icon of China's rise: the highest-resolution map yet of the entire surface of the moon, pieced together from images taken by China's Chang'e lunar probe, named after a mythological Chinese moon goddess. Ouyang is the project's chief scientist.

"Now that we've managed to send men into space, it's time for us to do more with probing the moon, to push forward the development of science and technology," said Ouyang, one of China's most passionate supporters of lunar exploration.

At a casual glance, China's space program seems a tad retro. There's talk of a rover that, within the next decade, could land on the moon, take surface samples and return to Earth. Chinese astronauts will attempt their first-ever spacewalk as early as this week. Americans and Russians surpassed these scientific feats decades ago.

But the "been there, done that" appearance masks the deeper significance of China's multipronged space program. It has developed sophisticated launchers and satellites, which it builds by the dozens and sends skyward for friends and paying clients, conservatively aiming to capture 15 percent of the global market for such services. China is building partnerships to support its manned space program, with hopes of creating its own space station and potentially exploiting the resources of the moon, various asteroids and perhaps even Mars to meet energy and other needs here on Earth. China is experimenting with antisatellite and other space-based capabilities to counter the overwhelming U.S. dominance of extraterrestrial territory. All the while, it is training and inspiring a new generation of engineers and scientists -- hundreds of thousands of them.

**China willing to cooperate with U.S. on resource extraction from space, US law and anti-sino feelings reason cooperation hasn’t already occured**

**Washington Post ‘08** [“Space Inspires Passion And Practicality in China” [http://www.washingtonpost.com/wp-dyn/content/article/2008/09/23/AR2008092302649.html 6/24/11](http://www.washingtonpost.com/wp-dyn/content/article/2008/09/23/AR2008092302649.html%206/24/11)]

As China gains confidence, officials are becoming a bit more willing to showcase their space acumen. The government announced this summer that it will build a first-ever visitors' center alongside a launch site in Hainan province, an island in southern China. Chen Yao, vice tourism bureau chief of the province, said he expects the center to be completed in 2012. China is unabashed when it thinks about using the space environment for practical purposes. For example, China sent thousands of agricultural seeds into space to see how radiation, zero gravity and other pressures would affect them. Universities and state-owned companies then cultivated the seeds and have produced giant pumpkins, tomatoes, cucumbers and the like. The state-run New China News Agency reported that the vitamin content of vegetables grown from space-bred seeds was 281.5 percent higher than that of ordinary vegetables. Others have declined to follow China's lead, saying the costs are too high and they are skeptical of the benefits. Ouyang does not rule out mining resources on the moon one day or finding ways to get fuel sources such as helium-3 from the moon. "Apart from coal, in less than 100 years all our resources could be finished. As scientists, we have to think of alternatives. It's the right thing to do," Ouyang said. But for now, Ouyang and China's other scientists and engineers are focused on the specific technical challenges of operating in space and conducting basic exploration. Although U.S. space officials say China will be capable in coming years of landing men on the moon, Ouyang said the government has not decided whether to bankroll such an effort. China has already built a solid, homegrown business in manufacturing and launching communication and surveillance satellites, and it is selling those services to countries including Brazil, Venezuela and Nigeria. "It's no accident that these are resource-rich countries," Logsdon said. "China is using its space capabilities as part of its broader diplomatic efforts." China's civilian space budget is stable but not very large; some experts estimate it at about one-tenth NASA's 2008 budget of $17.3 billion. China's budget is expected to grow steadily in coming years, however, as China's economy continues to expand. China is developing a comprehensive, long-term space strategy, through 2050, that will help promote and develop China's economy, technology and other interests, according to research published in July by Yi Zhou. Yi says now is the time for the United States and China to start trying to cooperate in their civilian space programs; until now, U.S. laws have prohibited technology transfers to China, and the two nations' space agencies have no cooperation agreements. The alienation is stark, given that NASA has signed about 4,000 agreements with more than 100 nations and that the China National Space Administration has built relationships with several nations as well as the European Space Agency.

# Link is non-unique

**US aerospace declining now**

**Klomp, 2010 – Major, USAF** [Jeremiah O., April, 2010, Air Command and Staff College, Air University, “Is Space Big Enough For A US-Sino Partnership?” <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA537174&Location=U2&doc=GetTRDoc.pdf>, accessed June 24, 2011]

The United States has long been the preeminent space power for at least the past 50 years. The launch of Sputnik was a catalyst that prompted the US to dedicate massive resources and efforts to achieving and maintaining leadership in space. This strategy worked well during the Cold War. Recently, however, without a peer competitor, priority of maintaining US space dominance has begun to wane. The combination of higher priorities in other areas of foreign affairs and a lack of competition has allowed the US to prioritize space behind other geo-political issues. Interests in the Middle East (Iraq and Afghanistan as well as Israel and Palestine) have taken the majority of available resources in both analysts and capital away from space as a 9 strategic priority. Lacking formal direction, emphasis on space development and progress has been allowed to drift. In nearly all major strategy and policy documents, there is no clear direction as to where space is heading in the immediate or long term future. Neither the National Security Strategy nor National Defense Strategy gives clear guidance to US space programs, and in fact reduces its scope. Space research and development are all but left out of national budgeting plans, with mere maintenance budgets just keeping them alive. Even the US manned space program, the Space Transport System (STS or Space Shuttle) formerly a source of national pride and prestige, is set to retire in 2010 with a follow-on program that has been plagued with delays and setbacks so much that the US will have no manned spaceflight capability for at least seven years. 3 Many of the space manufacturing pipelines kept alive solely by the Space Shuttle program have already been shut down and can only be restarted at great cost in dollars as well as human capital. Budgeting constraints have put NASA, America’s civil space laboratory, in a holding pattern. Without significant budget increases in the near future, our human spaceflight capability will dimish, seriously hampering our civilian space development. Add to that the critical reduction of our space industrial base with regards to rocket building and production, and the future of US space capability looks dim.

**China is inherently rising as an aerospace leader**

**Klomp, 2010 – Major, USAF** [Jeremiah O., April, 2010, Air Command and Staff College, Air University, “Is Space Big Enough For A US-Sino Partnership?” <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA537174&Location=U2&doc=GetTRDoc.pdf>, accessed June 24, 2011]

China’s space capabilities have progressed rapidly in the last 10 years. From putting men in orbit to shooting down an aging weather satellite, it has demonstrated abilities over and above the average space-faring nation. Accomplishing these two feats effectively elevates China to an elite club with only two other members: the United States and Russia. China’s robust economy (including its huge cash reserves) and its nuclear capability give it a unique position as an emerging world power that it would not otherwise have been able to attain. 6 In its quest to further strengthen its place in the international forum, China has launched an aggressive space program that has been very successful and made many significant advances. Their sizeable economic resources are a great aid to their space goals. However, their lack of openness causes much speculation and curiosity as to what their true capabilities are and how they were developed. Since military applications of scientific discoveries are generally not separated by very much time, and the US has little insight into Chinese internal operations, the US has significant reason to exercise caution when considering which direction our China Space strategy should take. While China and the United States have a long history of disagreeing on political and military issues, their economies are inextricably tied together. Space is an area where perhaps the two countries can find common ground to build a meaningful and lasting partnership. There are, however, significant obstacles which must be overcome before such a partnership can be forged.

# Relations Resilient

**Relations Stable - Military deterrent and economic ties prevent conflict**

**Simons, 1-19-11, Pulitzer-winning Journalist**[U.S.-China relations: a newfound maturity, 6-21-11, http://www.usatoday.com/news/opinion/letters/2011-01-20-column20\_ST\_N.htm]

From the American perspective, this will require us to understand that as the Chinese grow wealthier and more content, it is only natural that they should want to protect their wealth and comforts. Upscale homeowners in the United States do this by moving into gated communities and securing their McMansions with alarm systems. China is doing it by, for example, adding J-20 stealth fighters to its arsenal — just as the U.S. Air Force did with the F-22 more than two decades ago. It is no less natural that the arrival of the J-20 at the same time that Defense Secretary Robert Gates was hinting he will eliminate a $14.4 billion program to develop a new Marine Corps landing vehicle makes some Americans jittery. But we may rest assured that with China spending between one-seventh and one-fifth of what the United States does on defense, our security is assured well into the future. Our fighting force is the biggest and most expensive — perhaps even the best — the world has ever known. Chess moves in Southeast Asia As to China's raising its profile in Southeast Asia, this should be viewed primarily in the context of geographic and cultural proximity. In the wake of the Bush administration's largely having ignored this strategic region, Obama is wise to be getting us re-involved. Best of all, as numerous people in the region tell me, we are welcome. Yes, they are happy to have China investing in their economies. And, yes, they are happy to have us doing the same. This is balance of power. It is peaceful competition. It is good for Southeast Asia, good for China and good for the United States. There is a lesson here for Americans: Don't get angry; get going. Pulitzer Prize-winning journalist Lewis M. Simons has covered Asia since 1967

# AT: US-China Collaboration

**1. China and the US will not collaborate on space**

**Whittington. May 8, 2011. Written numerous articles for the Washington Post, USA Today, the LA Times, and the Houston Chronicle.** [Mark, “ White House and Congress Clash Over NASA Funding, Space Cooperation with China.” Yahoo News. <http://news.yahoo.com/s/ac/20110508/pl_ac/8438927_white_house_and_congress_clash_over_nasa_funding_space_cooperation_with_china> accessed June 22nd]

The clash is not limited to funding and of space policy priorities. Space News also reports that the following day, on May 4, Holdren told members of the subcommittee that cooperation with China is seen as critical for prospects for long term space exploration, such as to Mars. This, mildly speaking, was not welcome news to members of the subcommittee. [ For complete coverage of politics and policy, go to Yahoo! Politics ] The problem is that China is currently ruled by a tyrannical regime that violates the human rights of its own people and is engaged in an imperial drive toward super power status at the expense of the United States. Congress has, in fact, passed a law prohibiting most forms of space and science cooperation with the People's Republic of China. The distrust Congress holds toward the administration where it comes to space policy is palatable. Members of Congress have expressed the view that NASA is slow walking the heavy lift launcher. Many are also pretty sure that the White House is trying to circumnavigate the law and is trying to find ways to cooperate with China despite the law. All of this points to the very real possibility that congress will use the power of the purse to restrict White House space policy options and to impose its own will on the future direction of NASA and space exploration. That this clash is happening at all is a direct result of a series of political blunders made by the administration dating back to the cancellation of the Constellation space exploration program and a lack of leadership on the part of the president.

**2. China-US relations declining- no possibility for cooperation**

**Chambers. March 2009. Master’s thesis Naval Postgraduate school.** [Rob W, “ China's Space Program: A New Tool for PRC "Soft Power" in International Relations?” DTIC. http://edocs.nps.edu/npspubs/scholarly/theses/2009/Mar/09Mar\_Chambers.pdf accessed June 25]

 Johnson-Freese’s address to the April 2007 conference “Collective Security in Space: Asian Perspectives on Acceptable Approaches” explained the more pessimistic outlook in greater detail. She cited the three main commissions that color U.S. space policy, namely the “Rumsfeld,” “Cox,” and “Rumsfeld Space” Commissions as bolstering a purported China “threat” in space.271 After the 2007 ASAT test, the “U.S. voices of moderation [which had] made some progress [against the ‘China threat’ camp]…had [been] drowned out”.272 Thus, while there were positive efforts to keep the threat perceptions from spiraling out of control, they were effectively extinguished by the Chinese ASAT demonstration. In her analysis of the 2004 DoD report on Chinese space activities, Johnson-Freese noted that “five out of six Chinese launches were considered militarily relevant breakthroughs, though all but one were civilian launches”.273 Given the downward trend in U.S.-China space relations and the strong anti-China bias from the Pentagon, she pessimistically concluded that chances would be grim for any real improvement “in the near-term and even in the next administration”.274 In addition to the ASAT test and issue of technology transfer are China’s track record on human rights and less-than-effective governance of intellectual property rights, which are often cited as moral and economic reasons to keep Beijing isolated. The “crystal clear” message that China continues to receive from the United States is that the “[U.S.] is not interested in cooperative space programs with China”.275 Thus, the prevailing sentiment that China is a space rival and not a country that the United States can work with in space seems firmly entrenched in some circles, at least for the time being.

# AT US Key to China Space Industry

**China’s space industry rapidly developing without US assistance**

**Cliff. 2011. Senior political scientist at the RAND Corporation, P.H.D. in international relations.** [ Roger with Chad J. R. Ohlandt, Ph.D. Aerospace Engineering and Scientific Computing, and David Yang, Ph.D in politics at Princeton University. “ Ready for Takeoff-China’s Advancing Aerospace Industry.” RAND. <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA539926&Location=U2&doc=GetTRDoc.pdf> accessed June 24]

Foreign involvement in China’s space industry is significantly less than in the aviation manufacturing industry. China is not closely integrated into the supply chains of foreign space companies, and the market for Chinese products and services such as space launches and satellites is small. Although China’s space launch vehicles were originally based on ballistic-missile technology transferred from the Soviet Union, China has advanced far beyond that technology through its own efforts, and foreign assistance has been limited. Chinese space companies have received technical assistance from foreign entities in some specific areas, such as Russian assistance in the area of manned spaceflight, Brazilian assistance in the development of earth-observation satellites, German assistance in the development of communications satellites, and U.S. assistance in launch-vehicle technology. In most cases, however, the advancement of China’s space technology has been the result of purely domestic efforts. China has made significant progress in advancing its space capabilities over the past decade and is making concerted efforts to further expand them. All relevant metrics reveal an accelerating growth trend in the country’s civilian and military space program development. In 83 known spacecraft launches between October 20, 1996, and June 15, 2010, Chinese launch vehicles experienced only one failure—an incomplete burn of a third stage that resulted in an Indonesian communications satellite being put in the wrong orbit in August 2009 (“Long March [Chang Zheng],” 2010). The 83 launches included three successful launches of manned spacecraft, the most recent of which, in September 2008, involved a spacewalk, and two lunar orbiters (“Shenzhou Series,” 2009; “Chang’e Series,” 2010). China’s government is trying to promote China’s growth as a provider of commercial space products and services. In the 1990s, China emerged as a major provider of commercial launch services with its Chang Zheng (“Long March”) series of launch vehicles. From 1990 to 1999, Chinese rockets launched nearly 30 satellites for customers based outside of mainland China. In the late 1990s, however, several Chang Zheng launches failed, and it was revealed that U.S. satellite companies had provided technical assistance to Chinese launch-vehiclemakers (who also make missiles for the Chinese military and for export), resulting in tightened U.S. restrictions on China launching satellites that contain U.S. technology. As a consequence, only a handful of launches have been conducted for customers based outside of mainland China since 1999 (“Long March [Chang Zheng],” 2010). Recently, however, China has developed a domestically designed communications satellite, the European company EADS Astrium has developed a communications satellite that contains no U.S. technology, and as noted above, Chinese launch vehicles have established a remarkable record for reliability since 1996. As a result, the appeal of Chinese space products and services in markets outside the United States is probably increasing. China’s 11th Five-Year Plan, which ended in 2010, called for the greater integration of market mechanisms into the space program to foster competition and to generate products and services that could earn China a larger share of the global commercial space-systems market (“Aerospace Development 11th 5-Year Plan”).

# China crowds out US Market

**America’s space program declining-Chinese space options less expensive**

**Chambers. March 2009. Master’s thesis Naval Postgraduate school.** [Rob W, “ China's Space Program: A New Tool for PRC "Soft Power" in International Relations?” DTIC. http://edocs.nps.edu/npspubs/scholarly/theses/2009/Mar/09Mar\_Chambers.pdf accessed June 25]

China’s competitive edge in space launch is due to several factors. First, it offers insurance for all launches in case of failure through the China Insurance Company.281 Second, its lower wage scales allow it to underbid competing offers by “at least 10 to 15 percent”.282 Third, as part of its outreach to developing nations, it allows a “flexible payment method” as part of the package.283 Taking these factors as a whole, the launch portion can save prospective customers “$50 million per rocket” over the average higherpriced U.S. and European alternatives.284 The French-based Thales Aleniaspace has already taken advantage of this and had China launch six of its satellites since 2006.285 From this perspective, unless Washington starts modifying its space policy (see recommendations in Chapter V), other nations, including China, will continue to eat away at our lead in space. This becomes all the more critical with the decommissioning of the shuttle and our inability to get manned missions to the ISS without paying for Russian flights. Looking to private space enterprises such as Space X, which finally had a successful launch on its fourth Falcon-1 launch, may be a short-term solution. But especially when it comes to manned missions, launcher reliability is paramount. The Russian Soyuz and Chinese Shenzhou are both man-rated space vehicles that have a strong history of success thus far, and may be the only options for the U.S. to continue to send astronauts into space.

**2. Cheaper Chinese costs crowd out US space market**

**Chambers. March 2009. Master’s thesis Naval Postgraduate school.** [Rob W, “ China's Space Program: A New Tool for PRC "Soft Power" in International Relations?” DTIC. http://edocs.nps.edu/npspubs/scholarly/theses/2009/Mar/09Mar\_Chambers.pdf accessed June 25]

Over the past decade or so, the Bush administration and Congress, which “remained reluctant to loosen these [ITAR] restrictions,” had the “net effect…to strengthen relations between other satellite producers (such as Russia and the United Kingdom) and a growing list of clients in East Asia, South Asia, and the Middle East”.322 This also includes France and China, which have teamed together to produce “small, communication satellites that don’t include U.S. parts and therefore exempt from a complex web of U.S. technology-export controls [ITAR]. They are as much as 40 percent cheaper to assemble, test and launch than rival American models”.323 Even Europe, with its long military alliance and historical ties to the United States, is not reacting favorably to U.S. ITAR controls. Vincent Sabathier, former French space attaché, notes, “Very little cooperation regarding space-based security applications goes on between Europe and the United States. Meanwhile, ITAR itself has created barriers to prevent such cooperation”.324 In addition to the dramatic rise of “ITAR-free” space commerce, a report by the Center for Strategic and International Studies noted that “Not only have these requirements [ITAR] harmed our domestic technological and manufacturing base, but they have had a drastic negative effect on both the hard and soft power utilization of space”.325

# China can’t develop-pilot shortage

**China aerospace development slow- lack of pilots**

**China.org.cn. June 24, 2011.** [“ Boeing: China to need 72,700 airline pilots by 2030.” China.org.cn. http://www.china.org.cn/business/2011-06/24/content\_22851084.htm accessed June 25]

Boeing Co. predicted in a recent report that China will need a total of 72,700 new commercial airline pilots and 108,300 maintenance technicians by the year 2030. According to Boeing's 2011 Pilot and Technician Outlook, as the global commercial fleet size is expected to increase to more than 39,500 airplanes over the next 20 years, the world aviation industry will require 460,000 new commercial airline pilots and 650,000 new commercial airline maintenance technicians by 2030. Boeing predicted that the aviation industry will need an average of 23,000 new pilots and 32,500 new technicians every year over the next 20 years. Boeing prejected that the largest demand for pilots and technicians will be in the Asia Pacific region with an expected need for 182,300 pilots and 247,400 technicians. China alone account for about 40 percent of the total need in the region. North America will need 82,800 pilots and 134,800 technicians while Europe will require 92,500 pilots and 129,600 technicians, according to the report. Boeing called on the world aviation industry to invest, evolve and adapt to meet the expected exponential growth in demand for qualified aviation personnel. "To meet the demand for capable, well-trained people, Boeing and the aviation industry need to move with the speed of technology to provide the tools, training and work environment that tech-savvy pilots and technicians will expect from us," said Sherry Carbary, vice president of Boeing Flight Services. "We are adapting our technologies, devices and training methods to attract new people to the industry. That means new-tech solutions, including online and mobile computing that is engaging, realistic, portable and accessible to meet the learning styles of today's and future generations," Carbary said. Pilot shortages have long been one of the factors that drag down the development of China's commercial aviation industry.

# \*\*\*Impacts\*\*\*

# 2ac AT: ASAT Impact

**No impact to ASATs – Chinese officials**

**Larson, 2009 - Foreign Service Ofﬁcer with the US Department of State, lieutenant colonel in the US Air Force Reserves** [Garold, October 19, 2009, US Mission, “U.S. Statement on Peaceful Use of Outer Space – Thematic Debate of UNGA first Committee,” <http://geneva.usmission.gov/2009/10/19/outerspace/>, accessed June 21, 2011]

In this regard, we note again that a senior Chinese Ministry of Foreign Affairs official provided assurances last year to the United States that China will not conduct future ASAT tests in space. This commitment by China is an important step forward, and the international community expects China to live up to its pledge to act responsibly in outer space.

# No Impact- Dollar Dump

**China would not dump US assets even if relations were bad – would destroy China's economy as well**

**Dunaway, 11/16/09 – Adjunct Senior Fellow for International Economics** [Steven, Council on Foreign Relations, “The U.S.-China Economic Relationship: Separating Facts from Myths”, http://www.cfr.org/china/us-china-economic-relationship-separating-facts-myths/p20757, accessed 6/21/11]

Alternatively, China could choose to start dumping its stock of U.S. securities. The result would be appreciation of other major currencies (depending on where China would decide to park its reserve assets); upward pressure on U.S. interest rates; and the possibility of financial market disruptions if China dumped its U.S. dollar assets rapidly. However, the U.S. Federal Reserve could limit the rise in U.S. interest rates and would be able to ensure adequate liquidity to prevent market disruptions. But a decision to dump Treasuries would have a large effect on China itself. The country would incur a substantial capital loss on its reserve assets. The Chinese authorities are deeply concerned about such a loss, and are very unlikely to decide to dump U.S. assets. In fact, the discussion initiated by China regarding the need for an alternative official reserve asset is motivated by its concerns about potential losses on its U.S. dollar holdings. Myth No. 2: The United States is heavily dependent on cheap Chinese goods. This is not really true. Only roughly 15 percent of U.S. imports come from China. Moreover, all of the basic types of manufactured consumer goods that China exports to the United States (clothing, textiles, footwear, toys, small appliances, etc.) can be imported from other countries or could be produced domestically. The prices for goods that could substitute for products from China would be higher, but the difference in costs would be relatively small. Competition among producers has become fiercer, and as a result cost differentials between goods from China and other suppliers are narrowing. Dependence actually runs the other way. China is highly dependent on U.S. demand for its products. Economic growth in China is heavily dependent on exports. Although China has been able to achieve its 8 percent GDP growth target in 2009 owing to the stimulus to domestic demand provided by government policy actions, the country will struggle to meet this objective in 2010 and succeeding years if demand for its exports in the United States does not pick up.

**Trade would remain strong even if relations collapsed – US and China economic ties are vital to both countries**

**Korea Times, 3/14/10** [Korea Times, “China's Bad Bet Against America”, LexisNexis Academic, accessed 6/22/11]

Second, the fact that China holds so many dollars is not a true source of power, because the interdependence in the economic relationship is symmetrical. True, if China dumped its dollars on world markets, it could bring the American economy to its knees, but in doing so it would bring itself to its ankles. China would not only lose the value of its dollar reserves, but would suffer major unemployment. When interdependence is balanced, it does not constitute a source of power.

# No Impact - Econ Resilient

Economy’s resilient – Japan crisis proves no impact

Chang 3/13 (Gordon G, author of Nuclear Showdown: North Korea Takes On the World, has testified before the U.S.-China Economic and Security Review Commission and has delivered to the Commission a report on the future of China’s economy, “The Japanese Disaster: What’s Next for Japan? For Us?”, 2011, <http://blogs.forbes.com/gordonchang/2011/03/13/the-japanese-disaster-whats-next-for-japan-for-us-2/>)

But what is the assessment for the rest of the world? Will Japan’s crisis lead to a global one? The international system is remarkably resilient, able to slough off troubles. Aided by a rebound in international commerce—the value of trade looks like it increased a remarkable 9.5% last year—the global economy bounced back quickly from the terrifying downturn that began in 2008. Preliminary figures from the Central Intelligence Agency show global output in 2010 reached $62.2 trillion, an increase of 4.6%.

# No impact - Chinese weaponization

**No risk of China taking action-China expects U.S. to weaponize space**

**Grossman ‘5** professor of journalism at the State University of New York, written extensively on Space [Karl, “Master of Space” [http://www.hartford-hwp.com/archives/27c/537.html 6/27/11](http://www.hartford-hwp.com/archives/27c/537.html%206/27/11)]

ON NOVEMBER 1, THE GENERAL ASSEMBLY of the United Nations voted to reaffirm the Outer Space Treaty—the fundamental international law that establishes that space should be reserved for peaceful uses. Almost 140 nations voted for the resolution entitled Prevention of an Arms Race in Outer Space. It recognizes the common interest of all mankind in the exploration and use of outer space for peaceful purposes, reaffirms the will of all states that the exploration and use of outer space shall be for peaceful purposes and shall be carried out for the benefit and in the interest of all countries, and declares that prevention of an arms race in outer space would avert a grave danger for international peace and security. Only two nations declined to support this bill—the United States and Israel. Both abstained. For the United States, the issue goes way beyond missile defense. The U.S. military explicitly says it wants to control space to protect its economic interests and establish superiority over the world. Several documents reveal the plans. Take Vision for 2020, a 1996 report of the U.S. Space Command, which coordinates the use of Army, Navy, and Air Force space forces and was set up in 1985 to help institutionalize the use of space. The multicolored cover of Vision for 2020 shows a weapon shooting a laser beam from space and zapping a target below. The report opens with the following: U.S. Space Command—dominating the space dimension of military operations to protect U.S. interests and investment. Integrating Space Forces into warfighting capabilities across the full spectrum of conflict. A century ago, Nations built navies to protect and enhance their commercial interests by ruling the seas, the report notes. Now it is time to rule space. The medium of space is the fourth medium of warfare—along with land, sea, and air, it proclaims on page three. The emerging synergy of space superiority with land, sea, and air superiority will lead to Full Spectrum Dominance. The Air Force publishes similar pamph-lets. Space is the ultimate 'high ground,' declares Guardians of the High Frontier, a 1997 report by the Air Force Space Command. Proudly displayed in that report is a Space Command uniform patch and motto: Master of Space. Nuclear power is crucial to this scenario. In the next two decades, new technologies will allow the fielding of space-based weapons of devastating effectiveness to be used to deliver energy and mass as force projection in tactical and strategic conflict, says New World Vistas: Air and Space Power for the 2lst Century, a 1996 U.S. Air Force board report. These advances will enable lasers with reasonable mass and cost to effect very many kills. . . . Setting the emotional issues of nuclear power aside, this technology offers a viable alternative for large amounts of power in space. Corporate interests are directly involved in helping set the U.S. space doctrine—a fact the military flaunts. In its 1998 Long Range Plan, the U.S. Space Command acknowledges seventy-five participating corporations—including Aerojet, Hughes Space, Lockheed Martin, and TRW. The P.R. spin is that the U.S. military push into space is about missile defense or defense of U.S. space satellites. But the volumes of material coming out of the military are concerned mainly with offense—with using space to establish military domination over the world below. It's politically sensitive, but it's going to happen. Some people don't want to hear this, and it sure isn't in vogue, but—absolutely—we're going to fight in space, General Joseph W. Ashy, the former commander-in-chief of the U.S. Space Command told Aviation Week and Space Technology in 1996. We're going to fight from space, and we're going to fight into space. That's why the U.S. has development programs in directed energy and hit-to-kill mechanisms. We will engage terrestrial targets someday—ships, airplanes, land targets—from space. Space is increasingly at the center of our national and economic security, agreed General Richard B. Myers, current commander-in-chief of the U.S. Space Command, in a speech entitled Implementing Our Vision for Space Control, which he delivered in April 1999 to the U.S. Space Foundation in Colorado Springs, Colorado. The threat, ladies and gentlemen, I believe is real, he said. It's a threat to our economic well-being. This is why we must work together to find common ground between commercial imperatives and the President's tasking to me for space control and protection. With regard to space dominance, we have it, we like it, and we're going to keep it, said Keith Hall, Assistant Secretary of the Air Force for Space, in a 1997 speech to the National Space Club. Space is in the nation's economic interest. In Congress, one avid booster of U.S. space dominance is Senator Bob Smith, Republican of New Hampshire. Smith believes that national security depends on space supremacy. He is interested in breaking up the Air Force and creating a Space Force. Even the Council on Foreign Relations—usually characterized as centrist—has come on board. In 1998, it published a booklet entitled Space, Commerce, and National Security, written by Air Force Colonel Frank Klotz, a military fellow at the council. The most immediate task of the United States in the years ahead is to sustain and extend its leadership in the increasingly intertwined fields of military and commercial space. This requires a robust and continuous presence in space, says the report. The U.S. government is pouring massive amounts of public money—an estimated $6 billion a year, not counting what is secretly spent—into the military development of space. And the United States has signed a multimillion dollar contract with TRW and Boeing to build a Space-Based Laser Readiness Demonstrator. The military's poster for this laser shows it firing a ray into space while above it an American flag somehow manages to wave. THE GLOBAL NETWORK AGAINST WEAPONS & NUCLEAR POWER IN SPACE is challenging these plans. Next April, the Global Network will come to Washington, D.C., for a protest, including a demonstration at the U.S. Treasury to stress how much money is being spent by the United States on military activities in space. If the U.S. is allowed to move the arms race into space, there will be no return, says Bruce Gagnon, coordinator for the Global Network, based in Gainesville, Florida. We have this one chance, this one moment in history, to stop the weaponization of space from happening. The peace movement must move quickly, boldly, and publicly. Above all, we must guard against the misuse of outer space, said Kofi Annan as he opened the 1999 U.N. conference on space militarization in Vienna. We must not allow this century, so plagued with war and suffering, to pass on its legacy, when the technology at our disposal will be even more awesome. We cannot view the expanse of space as another battleground for our Earthly conflicts. But, as the new century dawns, that is exactly what the U.S. military is doing.

**No war - China far behind US in technology**

**Desker, 6/4/08 – Dean of S Rajaratnam School of International Studies** [Barry, The International Institute for Strategic Studies, “Why War is Unlikely in Asia: Facing the Challenge from China”, http://www.iiss.org/conferences/global-strategic-challenges-as-played-out-in-asia/asias-strategic-challenges-in-search-of-a-common-agenda/conference-papers/fifth-session-conflict-in-asia/why-war-in-asia-remains-unlikely-barry-desker/, accessed 6/21/11]

The PLA has increasingly pursued the acquisition of weapons for asymmetric warfare. The PLA mimics the United States in terms of the ambition and scope of its transformational efforts – and therefore challenges the U.S. military at its own game. Nevertheless, we should note that China, despite a “deliberate and focused course of military modernization,” is still at least two decades behind the United States in terms of defence capabilities and technology. There is very little evidence that the Chinese military is engaged in an RMA-like overhaul of its organizational or institutional structures. While the Chinese military is certainly acquiring new and better equipment, its RMA-related activities are embryonic and equipment upgrades by themselves do not constitute an RMA. China’s current military buildup is still more indicative of a process of evolutionary, steady-state, and sustaining – rather than disruptive or revolutionary – innovation and change. In conclusion, war in the Asia-Pacific is unlikely but the emergence of East Asia, especially China, will require adjustments by the West, just as Asian societies have had to adjust to Western norms and values during the American century. The challenge for liberal democracies like the United States will be to embark on a course of self-restraint.

# China Cooperation Impact Turn

**China cooperation bad – they would steal our technology, then use it against us**

**Klomp, 2010 – Major, USAF** [Jeremiah O., April, 2010, Air Command and Staff College, Air University, “Is Space Big Enough For A US-Sino Partnership?” <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA537174&Location=U2&doc=GetTRDoc.pdf>, accessed June 24, 2011]

Since China is potentially one of our key peer competitors in the future, it does not seem wise to give them any additional advantage by first showing our hand to them, and then aiding them in the development of their own capabilities which would then likely be used against us. 22 Any collaboration with China would have to be strictly monitored to prevent either side from sharing or gathering more information than intended. Such actions would undermine relations, rather than improve them. Proliferation issues provide perhaps the strongest rationale against collaboration with China. Their historical lack of respect for intellectual property, as well as demonstrated willingness to engage in ‘unintentional technology transfers’ and outright piracy are strong detractors to a partnership in which cutting-edge technology would be used and/or shared. However, regarding intelligence gathering, partnering with China may give us some insight into the levels to which Chinese space has advanced and allow us to more accurately determine the 20 stages of their development and help us refine our strategy towards them. China has traditionally maintained a close hold an all things military, particularly with their space programs. Pursuing a partner-type relationship might help open a dialogue that would otherwise be stifled.

# 2ac China militarization turn

**Turn: Chinese space militarization will increase deterrence, preventing war**

**Chase, 2011 – Ph.D. in international relations from Johns Hopkins, MA in China studies from SAIS, Johns Hopkins** [Michael S., March 25, 2011, Jamestown Foundation Publication, “Defense and Deterrence in China’s Military Space Strategy” <http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=37699&tx_ttnews%5BbackPid%5D=25&cHash=e3f0fcd233f563e2364ad7bc49425244>, accessed June 21, 2011]

Within this broad context, Bao outlines a Chinese approach to space deterrence, one in which "an active defense will entail a robust deterrent force that has the ability to inflict unacceptable damage on an adversary" [20]. According to Bao, "under the conditions of American strategic dominance in space, reliable deterrents in space will decrease the possibility of the United States attacking Chinese space assets." Specifically, he writes, China "will develop anti-satellite and space weapons capable of effectively taking out an enemy’s space system, in order to constitute a reliable and credible defense strategy." This suggests that in addition to denying an enemy the ability to use its space systems in a war with China and countering the possibility of space-based missile defense capabilities undermining China’s nuclear deterrent, another of the missions for China’s counter-space capabilities could be protecting China’s own space systems by deterring an adversary from attacking them.

# AT: China Military Modernization

**Alt cause: US BMD development causes a Chinese nuclear attack**

**Blazejewski, 2008 –** **JD/MPA degree in NYU School of Law, previous work in American Civil Liberties Union (ACLU), Cleary Gottlieb Steen & Hamilton LLP, and the Democratic staff of the House Ways and Means Committee.** [Kenneth S., 2008, “Space Weaponization and US-China Relations,” <http://www.au.af.mil/au/ssq/2008/Spring/blazejewski.pdf>,” Date accessed 6/26/2011]

On this account, China’s primary concern with US space weaponization is its contribution to a US multilayered missile defense shield. Indeed, China’s campaign for PAROS negotiation at the CD seems to intensify after each new development in United States BMD plans. Although China could respond to a BMD shield with effective countermeasures, future technological developments may permit the BMD system to vitiate China’s nuclear deterrent. In the case of a conflict over Taiwan, for example, a US space-based BMD system could prove very valuable to the United States. According to this view, if the United States decides to advance with such a BMD program, China will respond so as to maintain its nuclear deterrence. It will modernize its ICBM fleet (a program it has already initiated), develop further countermeasures to circumvent the BMD shield, and develop the means to launch multiple ASAT attacks. Ultimately, an arms race could ensue. This, however, would not be China’s chosen outcome. Its development of space weapons is merely a counter- strategy to what it views as likely US space weaponization. China would much prefer that the United States negotiate a PAROS agreement not to build the BMD shield. If this were the case, China’s January ASAT test would appear to be an attempt to get the United States to the negotiating table. By launching the ASAT, China sought to put the United States on notice that any attempt to weaponize outer space would lead to this mutually undesirable path.

# 2ac AT: Chinese First Strike Impact

**No impact: no risk of a Chinese first strike**

**Shixiu 2007 - senior fellow of military theory studies and international relations at the Institute for Military Thought Studies, Academy of Military Sciences of the PLA** [Bao, Winter 2007, China Security, “Emerging Threat,” <http://www.wsichina.org/cs5_1.pdf>, accessed June 21, 2011]

First and foremost, a deterrent in space will vigorously maintain “active defense” as its central strategy as it has for all other areas of national defense. Active defense is “defensive” but also “active.” It is defensive in that China will never conduct a first strike or take on offensive stance and will make every effort to prevent others from attacking China in space. That is, China will maintain a stance of second strike. But the Chinese strategy must also be active– and require China to possess the ability to launch “effective” counterattacks. In other words, an active defense will entail a robust deterrent force that has the ability to inflict unacceptable damage on an adversary.

# Deterrence Turn

**US Space Deterrence is at risk; plan key to solve for deterrence. Possessing offensive capabilities supersedes diplomacy & relations efforts.**

**MacDonald 3-18-2009**, Senior Director of the Nonproliferation and Arms Control Program with the USIP Center for Conflict Analysis and Prevention, MacDonald is an honors graduate in aerospace engineering from Princeton University.  He also received two Masters Degrees from Princeton, one in aerospace engineering with a specialty in rocket propulsion, and the second in public and international affairs. [Bruce W. Macdonald, Testimony of Bruce W. MacDonald-Before the Strategic Forces Subcommittee, <http://www.usip.org/experts/bruce-w-macdonald>, 6-22-11]

Should the U.S. Have Offensive Space Capabilities? This is a question that lends itself to simplistic answers on both sides of the question. If it is possible to establish a space regime where no one had offensive space weapons, we should certainly do so. If we can maintain space deterrence by other than offensive means, we should certainly do so. We must think long and hard before we deploy a major offensive space capability. But if there are no feasible alternatives, then we should develop a limited offensive capability, in a deterrence context. Limited, tactical applications may also be possible but must be fully understood first. The U.S. and China have already crossed a space Rubicon of sorts. ASAT capabilities already developed cannot be un-invented, and missile defense, with inherent ASAT capabilities, is here to stay. This is reality. U.S. security crucially depends on space and will do so even more in the future, and such capabilities must be preserved. Defensive steps can help, but ultimately it is difficult to protect space assets. We also can and should decentralize our space assets, putting our space eggs in more baskets to reduce our vulnerability, which would help, but likely not resolve, our problem. Arms control and other diplomatic steps certainly have a larger role to play and can help limit some of these threats. But verification issues make a comprehensive diplomatic-only solution seem improbable at present, which means the U.S. may need at least some offensive space capabilities, though we should tread carefully and thoughtfully into this new, highly uncertain world.

# National Defense Turn

**Plan enhances the space program – key to national defense**

**Mac’Donald 3-18-2009**, Senior Director of the Nonproliferation and Arms Control Program with the USIP Center for Conflict Analysis and Prevention, MacDonald is an honors graduate in aerospace engineering from Princeton University.  He also received two Masters Degrees from Princeton, one in aerospace engineering with a specialty in rocket propulsion, and the second in public and international affairs. [Bruce W. Macdonald, Testimony of Bruce W. MacDonald-Before the Strategic Forces Subcommittee, <http://www.usip.org/experts/bruce-w-macdonald>, 6-22-11]

While America has been a space-faring nation for over 50 years, the essential and growing role that space plays as a foundational feature in our conventional military superiority, our strategic nuclear strength, and our civilian economy is too little understood. The rivers of information and other services our space assets provide allow our military decision-making and weapons to be far more effective than in the past, vital advantages across the spectrum of potential conflict. It is no wonder that current U.S. space policy for the first time calls our space assets “vital to our national interests.” Yet more serious than this lack of public understanding about space is the serious shortfall in understanding within the military space community of the larger implications of this space importance. The threats to our space assets, and hence to our vital national interests, come in many forms, some hostile, some not. One of the biggest threats we face is what we just don’t know: about objects in space, the intentions of those who put them there, and the very strategic landscape of space itself – how it operates, where it poses strategic dangers, and what we need to look out for. And this is dangerous.

**Dominance in space is key to maintain the US military & the US economy**

**Mac’Donald 3-18-2009**, Senior Director of the Nonproliferation and Arms Control Program with the USIP Center for Conflict Analysis and Prevention, MacDonald is an honors graduate in aerospace engineering from Princeton University.  He also received two Masters Degrees from Princeton, one in aerospace engineering with a specialty in rocket propulsion, and the second in public and international affairs. [Bruce W. Macdonald, Testimony of Bruce W. MacDonald-Before the Strategic Forces Subcommittee, <http://www.usip.org/experts/bruce-w-macdonald>, 6-22-11]

Our overall goal should be to shape the space domain to the advantage of the United States, and to do so in ways that are stabilizing and enhance U.S. security. The U.S. has an overriding interest in maintaining the safety, survival, and function of its space assets so that the profound military, civilian, and commercial benefits they enable can continue to be available to the United States and its allies.These vital space assets face three forms of threats, all of them worrisome and growing:

# AT: New Cold War/International Divisions

**Not unique: Divisions in UN now - Libya**

**Borger in 5/18/2011, diplomatic editor** [Julian, Guardian, “Libya no-fly resolution reveals global split in UN,” http://www.guardian.co.uk/world/2011/mar/18/libya-no-fly-resolution-split]

The UN security council vote on a Libyan no-fly resolution revealed a global split which is likely to have long-term implications. In the short term, it was a victory for Britain, France and the US, which pushed through an extraordinarily sweeping resolution giving them and their allies a blank cheque on military action in Libya, short of putting troops on the ground. Russia and China abstained rather than use their veto, due largely to the influence of the Arab League. It would have been hard to reject the official voice of the region. However, the Arab League's role on this occasion arose from a particular set of circumstances, largely revolving around the unpopularity of Muammar Gaddafi and his regime. In the long term, Washington, London and Paris might worry about the decision of Brazil, India and Germany to abstain. The German vote was a reminder that western solidarity cannot be taken for granted after Iraq. More importantly, Brazil and India – two rapidly growing powers widely backed for permanent seats in a reformed security council – showed that their geopolitical instincts lie with Russia and China. For them issues of sovereignty and non-interference trumped human rights concerns. The grouping of Brazil, Russia, India and China is solid enough to have its own acronym: Bric. It conceded the battle this time, but sent a signal that in future it will be harder for the west to have its way. This is how sides were taken in the UN security council and the military preparations that followed … The no-fly coalition Britain David Cameron has surprised many by his enthusiasm for humanitarian intervention, having insisted days earlier: "I am not a naive neocon who thinks you can drop democracy out of an aeroplane at 40,000ft." However, he appeared to be not only haunted by Iraq and the failure to gain a UN mandate, but also by his party's failure to intervene in Bosnia to save Muslims from slaughter in the 1990s. The bullish determination he has shown has also helped bury memories of his government's botched early response to the Libyan crisis, which had William Hague claiming Gaddafi had fled to Venezuela. France Nicolas Sarkozy also has something to bury: his government's failure to foresee the Arab uprising and the impression it gave early on of siding with the region's dictators. Sarkozy's political instinct and inclination towards grand gestures has helped put Paris back in the driving seat. The president also has some past form as a humanitarian interventionist. He hired Bernard Kouchner, a human rights activist, as his first foreign minister, though Kouchner was kept on a tight rein and squeezed out of his job last year. United States A late but decisive member of the no-fly zone lobby, Barack Obama's White House was torn for weeks between interventionists in the state department and its own ranks, and the pragmatism of the defence secretary, Robert Gates, and his generals. The sudden promotion of an aggressively worded resolution came after the rapid advances of Gaddafi's troops brought home the possibility of a bloodbath in Benghazi, and Arab League support for a no-fly zone defused some fears of alienating the Arab and Islamic world. The United Arab Emirates and Qatar Both Gulf states have their reasons for wanting to see the back of Gaddafi. They see him as a destabilising influence in the Arab world, and feel deceived by Libyan promises of reform. Gaddafi outraged the UAE by backing Iran over disputed islands in the Gulf. Qatar was furious over Tripoli's treatment of al-Jazeera, including the shooting dead of one of its television journalists. The abstainers Germany Abstention was driven by scepticism over whether a no-fly zone would work and possible irritation by the brash militancy of London and Paris. Germany's ambassador to the UN pointedly warned against the "optimistic assumption" of quick results and low casualties. Domestic concerns play an important role, however. Angela Merkel's party has to fight six regional elections this year, and faces an electorate that is deeply disenchanted with military involvement in Afghanistan, Germany's first combat role overseas since World War II. But Merkel's cautious approach carries its own risks. It isolates Germany in Europe, and there has been a groundswell in public opinion for intervention against Gaddafi. The chancellor may have calculated that such enthusiasm could very quickly evaporate as soon as anything went wrong in the enforcement of a no-fly zone. Merkel quickly moved to counterbalance her decision by offering to fly surveillance patrols over Afghanistan. Russia and China Both countries have consistently opposed any infringement of national sovereignty on humanitarian grounds, seeing it as a possible precedent for action against them over Chechnya and Tibet. They also suspect that humanitarian intervention is a means by which the US can flex its military muscle to maintain its dominant superpower status. Beijing is particularly nervous about disturbing an important source of oil, on which its rapid growth is absolutely dependent. The surprise on this occasion was that Moscow and China abstained, largely influenced by the Arab League, the region's formal representative. Brazil and India The two emerging powers see humanitarian interventions primarily as violations by rich, powerful countries of the sovereignty of weaker, poorer countries. Like China and Russia, they suspect the US and its western European allies of imposing human rights judgments selectively

# Space Race Turn

**Not unique: space race now**

**Cordell, 2011 – Program Manager at General Dynamics, Space Systems** [Bruce, 2/12/2011, 21stCenturyWaves, “The Cold War-style Arms Race in Asia and the New Space Age,” <http://21stcenturywaves.com/tag/general-dynamics/>, Accessed 6/27/2011]

The current Asia-Pacific arms race is reminiscent of the 1950s Cold War U.S.-Soviet arms race that triggered the first Space Race to the Moon. The fact that it’s occurring now among China and other vibrant asian economies — one long business cycle after the original Space Race — suggests the stage is being set for a new Space Age by 2015. By then the U.S. economy should also be booming.

**Chinese modernization now – US space action key to solve ASAT war**

**Ritter 2-13-2008, TIME Magazine -** Time is the world's largest weekly news magazine, and has a domestic audience of 20 million and a global audience of 25 million. [Peter Ritter, the New Space Race: China vs. US, TIME Magazine Co., http://www.time.com/time/world/article/0,8599,1712812,00.html#ixzz1PwaLgLsa, June 22, 2011]

China's manned space program, codenamed Project 921, is indeed a matter of considerable national pride for a country that sees space exploration as confirmation of superpower status. China is pouring substantial resources into space research, according to Dean Cheng, an Asian affairs specialist at the U.S.-based Center for Naval Analysis. With a budget estimated at up to $2 billion a year, China's space program is roughly comparable to Japan's. Later this year, China plans to launch its third manned space mission — a prelude to a possible lunar foray by 2024. With President George W. Bush vowing to return American astronauts to the moon by 2020, some competition is perhaps inevitable. China's space program lags far behind that of the U.S., of course. "They're basically recreating the Apollo missions 50 years on," says Joan Johnson-Freese, chair of the National Security Studies Department at the U.S. Naval War College and an expert on China's space development. "It's a tortoise-and-hare race. They're happy plodding along slowly and creating this perception of a space race." But there may be more at stake than national honor. Some analysts say that China's attempts to access American space technology are less about boosting its space program than upgrading its military. China is already focusing on space as a potential battlefield. A recent Pentagon estimate of China's military capabilities said that China is investing heavily in anti-satellite weaponry. In January 2007, China demonstrated that it was able to destroy orbiting satellites when it brought down one of its own weather satellites with a missile.

**US is losing the space race**

**Vieru 5-13-11,** Science Editor for Softpedia - possesses a biology, physics and chemistry background. [Tudor Vieru, How China's Space Program Affects the US, SoftNews NET SRL, http://news.softpedia.com/news/How-China-s-Space-Program-Affects-the-US-200147.shtml, 6-22-11]

At a congressional hearing held on Wednesday, May 11, experts from across the board met to discuss the implications that the Chinese military and civilian space plans have on the United States and its own capabilities. This is becoming really important, as the Asian nation is ramping up its space capabilities considerably. It already sent orbiters to the Moon and astronomers into space, and carried out its first spacewalk three years ago. For 2011, the China National Space Administration (CNSA) plans to conduct the first orbital docking maneuver, which will enable it to push forward with plans to construct the nation's first space station.

**Plan is key to win space race – now is key**

**Wheeler 3-31-06, Space Staff Writer** [Larry Wheeler, U.S. Losing Unofficial Space Race Congressmen Say, Florida Today, http://www.space.com/1232-losing-unofficial-space-race-congressmen.html, June 21st, 2011]

WASHINGTON - Some congressmen believe the United States and China are in an unacknowledged space race that this country could lose if it doesn't spend more money on the civilian space program. The communist nation's military runs its manned space program, employs an estimated 200,000 workers and has set a goal of putting an astronaut on the moon by 2017. By contrast, the National Aeronautics and Space Administration is a civilian government program with a limited budget that directly employs fewer than 20,000 civil servants and has lost the commanding lead it once held over the rest of the world in human space exploration. "We have a space race going on right now and the American people are totally unaware of all this," said Rep. Tom DeLay, the Texas Republican whose district includes Johnson Space Center near Houston.

**Plan is key to solve Chinese heg**

**Vieru 5-13-11,** Science Editor for Softpedia - possesses a biology, physics and chemistry background. [Tudor Vieru, How China's Space Program Affects the US, SoftNews NET SRL, http://news.softpedia.com/news/How-China-s-Space-Program-Affects-the-US-200147.shtml, 6-22-11]

This is another aspect that is making the US uneasy. China never made it a secret that its space facilities will have military applications as well, in addition to civilian and scientific ones. At the same time, the country already demonstrated a couple of years back that it has the ability to destroy satellites. At the new hearing, called “The Implications of China's Military and Civil Space Programs,” attendants discussed all this and more, weighing all the factors involved with the Chinese space programs. “There's still a lack of clear understanding of what Beijing's goals are, and how we interact with those,” conference attendant Ben Baseley-Walker tells Space. He is a member of the non-profit organization Secure World Foundation, which is committed to space sustainability. According to George Washington University (GWU) Space Policy Institute visiting scholar Alanna Krolikowski, the Asian nation plans to have its first space station complete by 2015 to 2022. After that, it will undoubtedly set its eyes on the Moon. China now plans to have a concept study detailing the requirements of a Moon landing ready by 2020, so that it could then get on with planning the landing. The reason why these developments are dangerous to the US is because they challenge the American dominance in space. This dominance gives the US a huge tactical advantage on the battlefield. If China manages to out-compete the United States, than that advantage will be transfer to Asia.

**China Cooperation bad – leads China to win the space race**

**Baker & Pollpeter, 12-13-04,** researchers with the RAND Corporation, a nonprofit research organization; global policy think tank first formed to offer research and analysis to the United States armed forces by Douglas Aircraft Company. It is currently financed by the U.S. government. [John C. Baker & Kevin L. Pollpeter, A Future for U.S.-China Space Cooperation?, RAND Co., http://www.rand.org/commentary/2004/12/13/SN.html, 6-22-11]

The Chinese would expect to benefit from cooperation with the more advanced U.S. space program, gaining increased prestige and taking a great leap forward by getting access to U.S. knowledge, experience and technology. However, because most space technologies and skills are dual-use in nature — meaning they also can be used to develop space systems for military use — America wants to be sure China doesn't use space cooperation as a tool to strengthen its military might. China has strong military reasons to become a major space power and many Chinese writings on space argue that China should develop space weapons in addition to militarizing space. These technologies could be used against U.S. forces if an armed conflict arises over Taiwan.

# 2ac AT: space war impact

**No impact to massive war – space weapons don’t have the power of nuclear or conventional weapons**

**Chase, 2011 – Ph.D. in international relations from Johns Hopkins, MA in China studies from SAIS, Johns Hopkins** [Michael S., March 25, 2011, Jamestown Foundation Publication, “Defense and Deterrence in China’s Military Space Strategy” <http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=37699&tx_ttnews%5BbackPid%5D=25&cHash=e3f0fcd233f563e2364ad7bc49425244>, accessed June 21, 2011]

China’s development of a space deterrence strategy can thus proceed from a starting point that draws on the strategic guidance of Mao and Deng and resembles Cold War deterrence theory, at least at a general level. Chinese writers, like their Western counterparts, conclude that strategic deterrence requires a country to meet three basic conditions: the possession of deterrent capabilities; the will to use them; and the ability to communicate to an adversary that it has the capabilities and the determination to use them if necessary. Yet, Bao argues that space force deterrence will differ from nuclear deterrence in some key respects. According to Bao, "[although] there will be a taboo on the use of space weapons, the threshold of their use will be lower than that of nuclear weapons because of their conventional characteristics. Space debris may threaten the space assets of other ‘third party’ countries, but the level of destruction, especially in terms of human life, could be far less than nuclear weapons or potentially even conventional weapons."

# International Space Station Participation (?)

**1. China’s participation in the ISS won’t increase relations-Empirically denied**

**Day.** January **2008. American space historian and policy analyst and served as an investigator for the Columbia Accident Investigation Board** [Dwayne A, “The China gambit.” The Space Review. http://www.thespacereview.com/article/1042/1, Accessed 6/26/11]

The fourth point about gaining a partner instead of a competitor is probably of lesser importance. Just as the ISS has not changed the United States’ overall strategic relationship with Russia, cooperating with China in space will not fundamentally alter the two powers’ strategic positions. There may be some benefits of sharing scientific data, but we already have examples where cooperation does not prevent countries from pursuing redundant scientific efforts—for example, we could share all of our lunar science data with India, but they would still want to build their own spacecraft. And there are benefits to competition as well in spurring innovation, or simply encouraging China to spend money on something peaceful, like human spaceflight. So the benefits of cooperation for its own sake are not readily apparent.

**2. China’s participation in the ISS does not guarantee them spending money on the plan**

**Day.** January **2008. American space historian and policy analyst and served as an investigator for the Columbia Accident Investigation Board** [Dwayne A, “The China gambit.” The Space Review. http://www.thespacereview.com/article/1042/1, Accessed 6/26/11]

As for helping to defray the costs of the ISS, it is doubtful that engaging China could have any effects on this. The long history of space cooperation demonstrates that it does not save any money. At best, it expands capabilities, providing opportunities that one country could not afford on its own. For example, the European Space Agency provided the Huygens Titan lander. This did not save the United States money on the Cassini spacecraft, and probably increased the cost and complexity of the mission, but it added a component that NASA could not afford on its own. Similarly, Russian cooperation on ISS was vital to keeping the station operating after the shuttle Columbia accident. So China is not going to save the United States money on ISS, but it is possible that at some point in the future China could add something (perhaps launch of the grounded, but highly desirable centrifuge module?) that could benefit the United States.