*SPACE MILITARIZATION DEBATES*

* Your team will consist of 2-3 persons and your group (which includes your opposition) will in total comprise 4-6 persons. Your team should be someone you have not debated with before.
* Your group (your team plus your opposition) will be assigned one of the three resolutions:
1. US Space Assets are threatened.
2. Space Weaponization is inevitable.
3. Space Weaponization is advantageous.
* One of the teams in your group will be assigned the pro side and the other team will defend the con side (i.e. US Space Assets are not threatened).
* You may utilize the evidence provided here. If you opt to get your own evidence OR use evidence from the reading packet Ms. Tate gave you, you must share that evidence with your opposing team.
* Format:

**Team 1 (the pro)**: Constructive – 4 minutes – Present your own arguments with explanation, evidence, and analytics.

**Cross**-**X:** 3 minutes

**Team 2 (the con)**: Constructive – 4 minutes – Present your own arguments with explanation, evidence, and analytics.

**Cross-X:** 3 minutes

**Team 1 Rebuttal –** 3 minutes – Respond to your opponents’ argument(s) and explain why yours is better

**Team 2 Rebuttal**  - 3 minutes – Respond to your opponents’ argument(s) and explain why yours is better

* Who speaks? If your team has two individuals on it, one of you gives the constructive and one the rebuttal. If your team has 3 individuals on it, you are to elect two spokespersons to give the speeches. *All members of the group (both teams) participate in both cross-examinations*.

![C:\Documents and Settings\ttate\Local Settings\Temporary Internet Files\Content.IE5\F0KAJKZR\MC900083563[1].wmf]() SPACE MILITARIZATION DEBATE

STUDENT BALLOT

**PRO:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CON:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***STRENGTHS: STRENGTHS:***

***AREAS TO IMPROVE ON: AREAS TO IMPROVE ON:***

**I thought the best debating was done by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The reason for my decision is:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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Team Members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pro / Con

Resolution:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Was the team organized in their arguments and refutation? + √ -**

**Did the team focus on key, substantive arguments? + √ -**

**Did the team have a good balance of evidence and analysis? + √ -**

**Did the team effectively refute their opposition’s arguments? + √ -**

**Was the team strategic in asking/answering questions? + √ -**

**Was the team effective in their delivery (volume, tone, rate)? + √ -**

**Other comments:**

**Grade \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ / 50**

*THE US SHOULD WEAPONIZE SPACE*

GROUP 1 - PRO: US SPACE ASSETS THREATENED

**#1 - U.S. dependence on space systems makes them a tempting target for attack**

The United States' reliance upon space systems for numerous military force applications is a tempting target to many nations. The post-cold-war era has left the United States with a downsized military in terms of personnel, equipment, and bases. This situation has forced our military to rely on a number of force multipliers such as space-based systems to overcome force size, enemy geographic advantages, and distance concerns. For example, on 8 May 1998, the United States' National Reconnaissance Office launched an Orion signal intelligence spacecraft that allows the nation to eavesdrop on military communications from Pakistan, India, China, and North Korea. The current drive towards using asymmetric strategies to defeat an enemy has, in one sense, opened the opportunity for a foe to attack our very strength through unconventional methods. The more capable the technology, the more our forces rely on it due to the reduced costs and improved capabilities provided to a joint force commander. Unless the United States, and the Air Force in particular, take precautions to defend vital space assets against such threats as ASATs, our forces likely will become more vulnerable to foreign threats despite our technological and military superiority.****

[**Chun, Clayton K. S.**](http://www.spacedebate.org/author/1015)[**Shooting Down a Star: Program 437, the U.S. Nuclear ASAT System and Present Day Copycat Killers**](http://www.maxwell.af.mil/au/aul/aupress/catalog/CADRE_Papers/CADRE_Out/Chun_P8.htm)**. CADRE Paper, No. 6. Maxwell AFB, AL:** [**USAF Air University**](http://www.spacedebate.org/organization/1001)**, April 2000. [ [11 quotes](http://www.spacedebate.org/citation/1016) ]** [ *page 69-70* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1280" \t "admin)** ]

**#2 – US Space Power will inevitably decline - 20-30 nations have capability for ground-based laser ASAT weapons**

Along with ballistic missile defense, the use of lasers in space has been contemplated as mechanisms to destroy satellites. Because military forces have started to use satellites for communications and observation, "it is inevitable that ways to destroy those satellites will be sought. And ways to defend them, as well." Evidence of the interest in ASATS was demonstrated in the recent United States' test firing of a laser aimed at an Air Force satellite positioned in outer space. The United States is not alone in the development of such systems. Many nations, including China and perhaps Iraq are currently developing laser anti-satellite systems. According to a National Security Council arms control specialist, "between twenty and thirty nations have ground-based lasers capable of putting directed energy into space." ****

[**Schlie, Kimberly M.**](http://www.spacedebate.org/author/1020) **"*Developing and Deploying Laser Weaponry in Space: Is it Legal?*."** [**DePaul International Law Journal**](http://www.spacedebate.org/source/DePaul%20International%20Law%20Journal)**. Vol. 4 (Winter 2000). [ [1 reference](http://www.spacedebate.org/citation/1021) ]** [ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1243" \t "admin)** ]

**#3 – US Space Power will inevitably decline - India, Iran, North Korea, and China all have the capability to develop an ASAT weapon**

All four nations discussed above -- North Korea, India, Iran, and the PRC -- have the potential space boosters and have demonstrated the ability and willingness to develop nuclear devices. They realistically could, in the next few years, field a low-cost ASAT weapon system powerful enough to severely damage or destroy a target satellite. Such an ASAT device could be a conventional weapon. However, the proliferation of nuclear weapons increases the likelihood that many nations, especially the DPRK, India, the PRC, and Iran, will be capable of producing and supplying makes the latter technology the more likely choice for states seeking to deploy ASAT systems. The nuclear weapons development by the four countries named above has been greatly aided by legal and illegal technology transfer.****

[**Chun, Clayton K. S.**](http://www.spacedebate.org/author/1015)[**Shooting Down a Star: Program 437, the U.S. Nuclear ASAT System and Present Day Copycat Killers**](http://www.maxwell.af.mil/au/aul/aupress/catalog/CADRE_Papers/CADRE_Out/Chun_P8.htm)**. CADRE Paper, No. 6. Maxwell AFB, AL:** [**USAF Air University**](http://www.spacedebate.org/organization/1001)**, April 2000. [ [11 quotes](http://www.spacedebate.org/citation/1016) ]** [ *page 60-1* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1277" \t "admin)** ]

**#4 – US Space Power will inevitably decline - Number of States with Access to Outer Space is Steadily Increasing**

By 2003, there were 10 actors with an independent orbital launch capacity, with an average of one new actor developing such a capability every eight years. A total of 44 states have accessed space through an independent launch capability or the launch capabilities of others. In the 1990s, the rate of increase in this capability doubled from just less than one to just less than two per year, mostly for civil space programs. Surrey Satellite Technology Ltd. of the UK has enabled seven countries to build their first civil satellite over the last 12 years. 2004 saw this trend toward greater civil space access continuing, with Iran announcing plans to launch a satellite in 2005, and South Korea and Russia signing an agreement on the joint development of a launch vehicle planned for use in 2007. The US Boeing Delta IV-Heavy launcher completed its first launch. While the Delta-IV Heavy launcher was developed primarily for the USAF, it will also provide new civil launch capabilities. Overall, a total of 28 civil assets, including satellites and human spaceflights, were launched in 2004, in addition to five launches involving the deployment of seven global utility satellites.****

[**Cowan-Sharp, Jessy**](http://www.spacedebate.org/author/1745)**,** [**Robert Lawson**](http://www.spacedebate.org/author/1742) ***et al*. **[**Space Security Index 2004**](http://www.spacesecurity.org/SSI2004.pdf)**. Waterloo, Ontario:** [**Space Security Index**](http://www.spacedebate.org/organization/2201)**, June 2005. [ [13 quotes](http://www.spacedebate.org/citation/1634) ]** [ *page XI* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1669" \t "admin)** ]

**#5 – US Space power will inevitably decline - China Recognizes U.S. Dependence on Space Assets and is Bolstering its Counterspace Capabilities**

According to the latest DOD report on Chinese military capabilities, the People's Republic of China (PRC) views the need for counterspace capabilities as inevitable. The PRC, according to Theresa Hitchens, is the only other country in the world that is engaged in a political-military debate on the value of space weaponization. Part of what makes China the most likely near term competitor for the United States is the extreme uncertainty that surrounds the Chinese space program. According to the DOD's 2004 report on Chinese military capabilities, the PRC realizes that the US is so dependent on space and, thus, it remains interested in counterspace capabilities that can deny or degrade America's ability to react to a PRC-Taiwan conflict. Paradoxically, the mystique of Chinese intentions makes space derived intelligence, surveillance, and reconnaissance (ISR) one of the few ways that the US can assess the progress of PRC space weapons. China recognizes this paradox and has taken steps to bolster its counterspace capabilities. A July 2000 article by Yang Hucheng, a Chinese defense analyst, supports this assertion. Hucheng suggests "for countries that can never win a war with the United States by using the method of tanks and planes, attacking the U.S. space system may be an irresistible and most tempting choice. Part of the reason is that the Pentagon is greatly dependent on space for its military action."****

[**Koskinas, Ioannis**](http://www.spacedebate.org/author/1129)**. "*Space Warfare Foolosophy: Should the United States be the First Country to Weaponize Space?*."** [**Air & Space Power Journal**](http://www.spacedebate.org/source/Air%20%26%20Space%20Power%20Journal)**. (January 2005). [ [1 reference](http://www.spacedebate.org/citation/1130) ]** [ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1169" \t "admin)** ]

**#6 – Space Weapons Feasible - Technological Means to Jam or Blind Satellites Already Widespread**

Technologically, our adversaries have the capability to blind imagery satellites or jam satellite signals. According to Leonard David's article in Space.com, laser technology is rapidly becoming available to blind imagery satellites. Countries and individuals have also shown they are willing and able to deliberately disrupt communication satellites. In 1997, India jammed Tongasat because of a disagreement over possession of a geosynchronous orbit slot. In 1998, MED-TV accused Turkey of jamming its Kurdish broadcast channel that is beamed to 70 countries. In early 2003, the FBI charged six people for selling software and decryption devices that allowed consumers to 'steal' satellite television signals (e.g., DirectTV) which they had not paid for. As late as the summer of 2003, the Iranian Embassy in Cuba reportedly jammed Voice of America satellite broadcasts being sent to Iran.****

[**Adkins, Larry D.**](http://www.spacedebate.org/author/1834) **"****[***Space Superiority: Does the US Really Have It?***](http://www.peterson.af.mil/hqafspc/news/images/JournalWinter05Web.pdf)**."** [**High Frontier Journal**](http://www.spacedebate.org/source/High%20Frontier%20Journal)**. Vol. 1, No. 3 (Winter 2005): 13-16. [ [2 quotes](http://www.spacedebate.org/citation/1835) ]** [ *page 13* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1836" \t "admin)** ]

**#7 – Space Weapons Feasible - Space Weapons Technology within Reach for Several Different Countries**

The second major aspect in which the space environment has evolved since the creation of the legal regime is the reality of space weapons technology. The debate over space weaponization is far from the theoretical discussion debated by the founders of the current legal regime. One particular display of how far the debate has progressed is the billions of dollars the United States continues to invest into the research and development of advanced space weapons like the Space Based Laser (SBL). In fact, recent leaps in space technologies have put the development of space weapons within the realm of possibility for several different countries. As New World Vistas: Air And Space Power For The 2lst Century, a U.S. Air Force board report, states, “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. These advances will enable lasers with reasonable mass and cost to affect very many kills.”

[**Park, Andrew T.**](http://www.spacedebate.org/author/2417) **"****[***Incremental Steps for Achieving Space Security: The Need for a New Way of Thinking to Enhance the Legal Regime for Space***](http://www.hjil.org/ArticleFiles/28_3_871.pdf)**."** [**Houston Journal of International Law**](http://www.spacedebate.org/source/Houston%20Journal%20of%20International%20Law)**. Vol. 28, No. 3 (2006): 871-911. [ [11 quotes](http://www.spacedebate.org/citation/2416) ]** [ *page 881* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2421" \t "admin)** ]

**#8 – Space Weapons Feasible - U.S. has Rudimentary Capabilities now to Disable Satellites, Advanced Techniques Possible in Next 10 Years**

FP: If the United States were to start tomorrow, how far away would it be from developing functional space weapons?
TH: We could take out a satellite today with a missile. We did that in 1985. We’re experimenting with lasers on the ground that could disable, disrupt, and destroy satellites. We’re not there yet, and it’s probably another 10 years before we have an actual, working weapon. The limitations are the engineering, not the physics. We could launch—tomorrow if we wanted—a microsatellite designed to maneuver into a larger, target satellite. We have the prototype of that technology in space now. So we’re not far away from having those kinds of capabilities. And I would say that any other space-faring nation that wished to spend the money would not be far from developing those kinds of capabilities, either.

[**Krepon, Michael**](http://www.spacedebate.org/author/577)**. "**[***Seven Questions: Space Weapons***](http://www.foreignpolicy.com/story/cms.php?story_id=3119)**."** [**Foreign Policy**](http://www.spacedebate.org/source/Foreign%20Policy)**. (July 2005). [ [3 quotes](http://www.spacedebate.org/citation/1442) ]** [ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2406" \t "admin)** ]

*THE US SHOULD WEAPONIZE SPACE*

GROUP 1 - CON: THREATS AGAINST US SPACE ASSETS IS INSIGNIFICANT

**#1 - China Lacks Capabilities Necessary for a Viable Anti-Satellite Weapons Program**

Despite numerous indications that China is interested in developing ASAT weapons and significant overall improvements in China's space program over the last two decades, China still lacks a number of capabilities that would be required for a viable ASAT program. These limitations include:

* Limited tracking capabilities. China continues to rely heavily on shared and leased space tracking facilities, which might not be available in the event of a conflict. Despite a domestic network, two foreign sites, and four tracking ships, the Chinese tracking system does not have a global reach.
* Limited launch capabilities. Although its launch capabilities have been improving, China still lacks the launch on-demand capability required for space warfare and for an effective ASAT system.
* Vulnerable infrastructure. China's immobile launch facilities, tracking facilities, space infrastructure, and possible ground-based laser sites would all be vulnerable to attack.

[**Deters, Angela**](http://www.spacedebate.org/author/1207)**,** [**Jing-dong Yuan**](http://www.spacedebate.org/author/1206) ***et al*. China's Space Capabilities and the Strategic Logic of Anti-Satellite Weapons. . Monterey, CA:** [**Center for Nonproliferation Studies**](http://www.spacedebate.org/organization/977)**, July 22, 2002. [ [5 quotes](http://www.spacedebate.org/citation/1228) ]** [ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1910" \t "admin)** ]

**#2 - Previous Russian ASAT System is no Longer Functional**

The exact status of the ASAT system deployed in Baykonur is unclear, but it is most likely that it is no longer operational. There were reports that the system underwent a modernization in 1991, but since it was done without flight tests it is highly unlikely that this modernization involved any significant upgrades. Significant parts of the space surveillance network that is an integral part of the system, have been lost during the break up of the Soviet Union. Although Russia has not formally announced that the system is decommissioned, the current structure of the Russian Space Forces does not include any units that could operate the system, which almost certainly means it is no longer functional. ( **[More ...](http://www.spacedebate.org/evidence/1955/)** )****

[**Podvig, Pavel**](http://www.spacedebate.org/author/1951)**. *"***[***Russian Military Space Capabilities***](http://www.fas.org/main/content.jsp?formAction=297&contentId=311)**." Ensuring America's Space Security. Ed. Phillip E. Coyle. Washington, D.C.:** [**Federation of American Scientists**](http://www.spacedebate.org/organization/499)**, September 2004. [ [3 quotes](http://www.spacedebate.org/citation/1952) ]** [ *page 127* ]

**#3 - India Many Years Away from Realizing its Vision for an "Aerospace Command"**

China's test of an ASAT (anti-satellite) weapon last month may have served as a rude wake-up call for India's defence establishment but the grim fact remains that it's still at least six to seven years away from establishing a fully-operational aerospace command to integrate air and space-based assets.
India may have a strong civilian space programme but the use of space or space-related technologies for military purposes has been rather limited so far.
The Defence Space Vision-2020, which outlines the roadmap for the armed forces in the realm of space, is just about getting ready to kick off, with intelligence, reconnaissance, surveillance and navigation as the thrust areas in its first phase (2007-2012).

Consequently, the armed forces are still some distance away from exploiting space for "real-time" military communications and reconnaissance missions, leave alone uses like missile early-warning, delivery of precision-guided munitions through satellite signals or jamming enemy networks.

**"**[***India years away from setting up aerospace command***](http://timesofindia.indiatimes.com/NEWS/India/India_years_away_from_setting_up_aerospace_command/articleshow/1565014.cms)**." Times of India. February 6, 2007.** [ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2670" \t "admin)** ]

**#4 - Advanced ASAT Technologies are Outside Capabilities of Rogue States**

Other potential ASAT weapons include laser, radio frequency (RF), and particle beam weapons. Laser weapons would generate intense beams of light to inflict thermal damage on the target satellite. RF weapons would emit an intense burst of radio energy -- usually either high power microwave (HPM) or ultrawideband (UWB) -- to disable the satellite's electronic components. Particle beam weapons use accelerated atomic particles (such as negative hydrogen or deuterium ions) to generate an intense beam that disables electronic components. Again, it is important to emphasize that these are postulated -- not operational -- ASAT weapons. Further, they are all very technologically advanced, extremely expensive, and therefore outside the capabilities of most -- if not all -- potential adversaries, especially rogue states.

[**Pena, Charles V.**](http://www.spacedebate.org/author/659) **and** [**Edward Hudgins**](http://www.spacedebate.org/author/1017)**.** [**Should the United States 'Weaponize' Space? Military and Commercial Implications**](http://www.cato.org/pubs/pas/pa-427es.html)**. . Washington, D.C.:** [**Cato Institute**](http://www.spacedebate.org/organization/4088)**, March 18, 2002. [ [5 quotes](http://www.spacedebate.org/citation/1018) ]** [ *page 9-10* ][

**#5 - Directed Energy Weapons not yet Viable for use as an ASAT Weapon**

Another potential counter-space system that offers equally appealing effects is lasers that could target space nodes, links, and possibly even terrestrial nodes. However, several differences exist between lasers and jammers. One difference is that jammers are a more proven commodity and in some cases have worked remarkably well in actual employment. In addition, various forms of electronic jamming have been taking place for decades. For example, the US military used a variety of airborne jammers during the initial stages of Desert Storm to help confuse the enemy. Conversely, laser technology as a space weapon is still confined to research and development, and it seems to be a long way from actual operational status, not to mention doctrinally proven and integrated into other operations. For many of these same reasons, space mines are unlikely to reach operational status in the near future. In sum, with respect to space-based counter-space systems, many problems exist.

[**Meteyer, David O.**](http://www.spacedebate.org/author/1922) ****[**The Art of Peace: Dissuading China from Developing Counter-Space Weapons**](http://www.usafa.af.mil/df/inss/OCP/ocp60.pdf)**. INSS Occasional Paper 60. USAF Academy, CO:** [**USAF Institute for National Security Studies**](http://www.spacedebate.org/organization/1518)**, August 2005. [ [20 quotes](http://www.spacedebate.org/citation/1923) ]** [ *page 52* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2542" \t "admin)** ]

**#6 - HAND ASAT Threat Deterred by U.S. Nuclear Arsenal**

Moreover, the ASAT threat that is postulated is a nuclear threat. According to noted defense analyst James Kitfield, �The U.S. military has long worried that an adversary might detonate a crude nuclear weaponin space, frying the delicate electronics of all satellites, and disproportionately hamstringing U.S. troops who rely on satellites for missile and bomb guidance and for communications.� If such a detonation were to occur, even though not directed at a terrestrial target, the nuclear threshold would have been crossed. Even a so called �irrational� adversary would have to think twice before using a nuclear weapon. And, certainly, the United States would view such an attack differently than if a conventional weapon had been used and would respond accordingly. During the Cold War, a distinct demarcation between conventional and nuclear weapons existed. Even if lower yield battlefield or tactical nuclear weapons had been used (e.g., in a scenario involving a Warsaw Pact invasion of a NATO country), escalation to a larger-scale retaliation using the United States� strategic nuclear arsenal was a very real possibility. Although a �doctrine� may not be in place to respond to a low yield nuclear ASAT scenario, the United States would probably go beyond the use of conventional weapons to retaliate. Potential adversaries know this. For example, the United States made clear to Iraq that use of chemical or biological weapons would trigger an appropriate U.S. response, including the possibility of nuclear weapons.****

[**Pena, Charles V.**](http://www.spacedebate.org/author/659) **and** [**Edward Hudgins**](http://www.spacedebate.org/author/1017)**.** [**Should the United States 'Weaponize' Space? Military and Commercial Implications**](http://www.cato.org/pubs/pas/pa-427es.html)**. . Washington, D.C.:** [**Cato Institute**](http://www.spacedebate.org/organization/4088)**, March 18, 2002. [ [5 quotes](http://www.spacedebate.org/citation/1018) ]** [ *page 8* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1229" \t "admin)**

**#7 - Shielding is a Better Solution to Threat of Laser Blinding than Space Weapons**

A potential solution to this problem would be satellite self-protection. Reconnaissance satellites and other vulnerable systems could be outfitted with physical shields to protect optics and sensitive electronics upon detection of high-intensity laser light. Detection of the low-power aiming phase of the ground-based lasers would give time for closing a shutter to eliminate the exquisite vulnerability of the satellite's focal plane. If deployed promptly, a thin metal shield (a parasol) could provide substantial protection against a megawatt- class laser. The point is that space weapons are not an effective response to this threat, while strictly defensive measures and terrestrial weapons and retaliation may be. ****

[**Deblois, Bruce M.**](http://www.spacedebate.org/author/515)**,** [**Jeremy C. Marwell**](http://www.spacedebate.org/author/1031) ***et al*. "*Space Weapons: Crossing the U.S. Rubicon*."** [**International Security**](http://www.spacedebate.org/source/International%20Security)**. Vol. 29, No. 2 (Fall 2004): 50-84. [ [3 quotes](http://www.spacedebate.org/citation/1032) ]** [ *page 59* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1388" \t "admin)** ]

**#8 - U.S. Should Focus on Defensive Counterspace Programs before Offensive Counterspace Measures**

These unnerving realities have led some observers to conclude that the solution to redressing emerging American space vulnerabilities lies in developing offensive counterspace capabilities. Though such elements will be required, what is more important in the near term is to accelerate investments in the mitigating solutions. The United States must improve its ability to comprehensively identify and assess all orbiting objects as well as to better anticipate the sources and capacity for counterspace attacks. A program to enhance the survivability of American space platforms though hardening, increased maneuverability, and possibly onboard active defenses is long overdue. And finally, the United States must increase its capacity to recover from space attacks by investing in reserve satellites either on-orbit or on the ground; in rapid spacelaunch capabilities; and in redundant, preferably mobile, control stations capable of seamlessly managing space operations in case of damage to primary control centers.

[**Tellis, Ashley J.**](http://www.spacedebate.org/author/3019)[**Punching the U.S. Military's "Soft Ribs": China's Anti-Satellite Weapon Test in Strategic Perspective**](http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=19317&prog=zch,zgp&proj=znpp,zsa)**. Policy Brief, No. 51. Washington, D.C.:** [**Carnegie Endowment for International Peace**](http://www.spacedebate.org/organization/1089)**, June 2007. [ [15 quotes](http://www.spacedebate.org/citation/3020) ]** [ *page 7* ][ **[Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=3035" \t "admin)** ]

*THE US SHOULD WEAPONIZE SPACE*

GROUP 1 - PRO: SPACE WEAPONIZATION INEVITABLE

**#1 – Space Weaponization has already occurred - U.S. successfully destroyed a satellite with an F-15 in 1985**

ON the morning of September 13, 1985, Air Force Major Doug Pearson smashed through the sound barrier in his F-15. Pointed almost directly upward more than seven miles above the Pacific Ocean, he tapped a little red button on the side of his control stick, and released a missile strapped to the belly of his plane. The missile blazed out of sight, leaving the earth's atmosphere quickly and reaching a speed of 13,000 miles per ~~second~~[*Corrected, ed.*] hour. Pearson wondered if it would hit anything.

The mission was classified, so Pearson had developed a code with the folks back at Edwards Air Force Base: The radioman would tell him to level off at a certain altitude if his missile struck its target, an obsolete scientific probe orbiting 345 miles over Hawaii. As it happened, the code wasn't necessary. When Pearson checked in a few minutes after firing, he could hear cheering in the background from the control room.

It was the one time an American pilot had ever destroyed an object in outer space. People still talk about Pearson as the country's first "space ace." He remains its only space ace. A few weeks after the satellite was destroyed, Congress banned further tests. "We had hoped to conduct more," recalls Pearson, now a general. "But politics were what they were, and the nation decided to go another way."****

[Miller, John J.](http://www.spacedebate.org/author/606) **"*Our Next Manifest Destiny*."** [National Review](http://www.spacedebate.org/source/National%20Review)**. Vol. 54, No. 13 (July 15, 2002): 35-7. [** [2 quotes](http://www.spacedebate.org/citation/1244) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1245" \t "admin) ]

**#2 – Space Weaponization has already occurred - U.S. has already Crossed the Threshold to Weaponize Outer-Space**

How does this thinking affect the possible use of space to support U.S. missile defense activities? One barrier to using space to support missile defenses has been the belief that the United States should not use space to provide overwhelming U.S. advantage or in any way contribute to a strategic imbalance between the United States and other great powers. Nonetheless, the above paragraphs indicate that the United States quietly crossed this space threshold at the end of the last century in ways that did not pertain to missile defense. The United States now leverages satellites to fight battles in ways that overwhelm adversaries. Our satellites allow field commanders to see the entire battlefield, communicate globally and instantaneously, attack targets precisely, avoid threats, and warn of aggression in ways that no other nation in the world can match. Arguing that space already affords the
United States an overwhelming military advantage is no overstatement.****

[McLaughlin, Kevin](http://www.spacedebate.org/author/1627)**. "****[*Would Space-Based Defenses Improve Security?*](http://www.twq.com/02summer/mclaughlin.pdf)**."** [Washington Quarterly](http://www.spacedebate.org/source/Washington%20Quarterly)**. Vol. 25 (Summer 2002): 177-191. [** [3 quotes](http://www.spacedebate.org/citation/1628) **]** [ *page 186* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1657" \t "admin) ]

**#3 – Space Warfare inevitable for strategic reasons - Space Weapons will Inevitably be Deployed for Defense**

It is almost certain that sometime early in the 21st Century, the fielding of space-based weapons will occur under the auspices of defense, in much the same manner as the nuclear weapon buildup that occurred within the latter half of the 20th. And, like nuclear weapons, once fielded, there will be no reversing course. This too is an historical lesson of warfare. As the world now grapples with the proliferation of nuclear weapons that were once the province of superpowers, so too will it see the initial weaponization of space be followed by increasingly sophisticated armaments as proliferation occurs there as well. A sobering thought is the prospect that as launch costs go down per unit of mass, the opportunity for other actors to put weapons into orbit about the Earth will go up.****

[Oberg, James](http://www.spacedebate.org/author/496)**. Space Power Theory. Maxwell AFB, AL:** [USAF Air University](http://www.spacedebate.org/organization/1001)**, 2001. [** [5 quotes](http://www.spacedebate.org/citation/994) **]** [ *page 150* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1437" \t "admin) ]

**#4 – Space Warfare inevitable for economic reasons - Space War Inevitable Due to Economic Motives**

The pressures on the space frontier are enormous -- from both an economic and a military perspective. Looked at in isolation, each of these pressures is severe enough to create conflict. In combination, they create the risk that future space conflicts could result in war -- either on earth, in space, or both.
On the economic front, conflict has already occurred because of crowding in GEO orbits and through saturation of the available radio spectrum. On the military front, conflict has been avoided because the United States, in recent years, has retained an effective monopoly on the use of space during conflict.
Conflicts involving the commercial use of space will continue to increase as crowding increases. There are limited unoccupied slots at GEO and a limited spectrum remaining to be allocated. On the military side, one cannot imagine the United States allowing an enemy to either threaten U.S. space capabilities or use space systems to their advantage, putting the U.S. at risk. Conflict involving space systems could be a significant part of the next major theater war involving the United States.****

[Hyten, John E.](http://www.spacedebate.org/author/982)[A Sea of Peace or a Theater of War: Dealing with the Inevitable Conflict in Space](http://www.acdis.uiuc.edu/Research/OPs/Hyten/html/cover.html)**. . Urbana-Champaign, IL:** [Program in Arms Control, Disarmament and International Security](http://www.spacedebate.org/organization/989)**, April 2000. [** [8 quotes](http://www.spacedebate.org/citation/983) **]** [ *page 33* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=985" \t "admin) ]

**#5 – Space Weapons are technologically feasible -** **Technological Means to Jam or Blind Satellites Already Widespread**

Technologically, our adversaries have the capability to blind imagery satellites or jam satellite signals. According to Leonard David's article in Space.com, laser technology is rapidly becoming available to blind imagery satellites. Countries and individuals have also shown they are willing and able to deliberately disrupt communication satellites. In 1997, India jammed Tongasat because of a disagreement over possession of a geosynchronous orbit slot. In 1998, MED-TV accused Turkey of jamming its Kurdish broadcast channel that is beamed to 70 countries. In early 2003, the FBI charged six people for selling software and decryption devices that allowed consumers to 'steal' satellite television signals (e.g., DirectTV) which they had not paid for. As late as the summer of 2003, the Iranian Embassy in Cuba reportedly jammed Voice of America satellite broadcasts being sent to Iran. ( [More ...](http://www.spacedebate.org/evidence/1836/) )****

[Adkins, Larry D.](http://www.spacedebate.org/author/1834) **"****[*Space Superiority: Does the US Really Have It?*](http://www.peterson.af.mil/hqafspc/news/images/JournalWinter05Web.pdf)**."** [High Frontier Journal](http://www.spacedebate.org/source/High%20Frontier%20Journal)**. Vol. 1, No. 3 (Winter 2005): 13-16. [** [2 quotes](http://www.spacedebate.org/citation/1835) **]** [ *page 13* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1836" \t "admin) ]

**#6 – Space Weapons are technologically feasible - Minimal Technical Requirements to be Considered a Space Power Threat**

In assessing the potential threat, we must examine which elements nations or groups will need to effect attacks on their enemies' space assets. They will need a means of deliver - they will, at a minimum need a booster with a range and altitude at least similar to that of the Thor; and they will need a device capable of producing sufficiently strong EMP effect to disable or destroy the intended target. Unless such a nation merely wants to make a random attack on any orbiting satellite, it will need an accurate and timely detection, tracking, and targeting system. This capability requires the ability to support launch activities that include preparing the vehicle and launch pad; keeping a vehicle on alert or in a ready condition; effecting the launch; and possibly refurbishing the launch pad. How real is such a threat? The answer depends on access to space boosters and potential ASAT warheads.

[Chun, Clayton K. S.](http://www.spacedebate.org/author/1015)[Shooting Down a Star: Program 437, the U.S. Nuclear ASAT System and Present Day Copycat Killers](http://www.maxwell.af.mil/au/aul/aupress/catalog/CADRE_Papers/CADRE_Out/Chun_P8.htm)**. CADRE Paper, No. 6. Maxwell AFB, AL:** [USAF Air University](http://www.spacedebate.org/organization/1001)**, April 2000. [** [11 quotes](http://www.spacedebate.org/citation/1016) **]** [ *page 36* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2342" \t "admin) ]

**#7 – US is planning on developing and deploying space weapons - U.S. Military Plans to Deploy Space Weapons in the Next 10 Years**

In the next decade, planned U.S. military activities in outer space will cross several important thresholds. By 2008 the U.S. Missile Defense Agency intends to deploy a test bed of space-based kinetic-energy kill vehicles (KKVs) to destroy high-speed collision test targets that mimic nuclear-armed reentry vehicles in the midcourse of their arc through space. In early 2006 a Missile Defense Agency satellite experiment, NFIRE, is planned to attempt to intercept a rocket in or near boost phase. Beyond missile defense, these U.S. space-deployed weapons will have broad implications for the entire space sector. Because a KKV designed to intercept missiles could also function as an antisatellite weapon (ASAT) and as a means to deny other countries' access to space, U.S. adversaries might feel compelled to develop means to counter these and other U.S. space weapons with their own systems based in space or on the ground. ( [More ...](http://www.spacedebate.org/evidence/1389/) )

[Deblois, Bruce M.](http://www.spacedebate.org/author/515)**,** [Jeremy C. Marwell](http://www.spacedebate.org/author/1031) ***et al*. "*Space Weapons: Crossing the U.S. Rubicon*."** [International Security](http://www.spacedebate.org/source/International%20Security)**. Vol. 29, No. 2 (Fall 2004): 50-84. [** [3 quotes](http://www.spacedebate.org/citation/1032) **]** [ *page 45* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1389" \t "admin) ]

**#8 – US is planning on developing and deploying space weapons - US Air Force Counterspace Operations Doctrine Indicates U.S. Moving towards Weaponizing Outer Space**

In August 2004, the USAF released a Counterspace Operations doctrine document, the first to clarify the concepts of 'space situation awareness,' 'defensive counterspace,' and 'offensive counterspace.' As well, it was the first to make explicit mention of military operations conceived "to deceive, disrupt, deny, degrade, or destroy adversary space capabilities." Although the Counterspace Operations document represents the views of the USAF and not necessarily that of the US Government, it did provide an important indicator of where US policy may be heading. For example, in December 2004, the US issued a Presidential directive calling on the US Department of Defense to develop its ability to deny an adversary the use of satellite-based positioning, navigation, and timing systems during a conflict.****

[Cowan-Sharp, Jessy](http://www.spacedebate.org/author/1745)**,** [Robert Lawson](http://www.spacedebate.org/author/1742) ***et al*. **[Space Security Index 2004](http://www.spacesecurity.org/SSI2004.pdf)**. Waterloo, Ontario:** [Space Security Index](http://www.spacedebate.org/organization/2201)**, June 2005. [** [13 quotes](http://www.spacedebate.org/citation/1634) **]** [ *page 38* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1636" \t "admin) ]

*THE US SHOULD WEAPONIZE SPACE*

GROUP 2 - CON: SPACE WEAPONIZATION IS NOT INEVITABLE

**#1 – Space weaponization has not already occurred - No country has used lethal or destructive force from, to, or within space**

Nor has any other country clearly crossed this threshold. It is believed that in October and November of 1975, the Soviets used intense beams of radiation to interfere with three American satellites, although the US government later officially explained these incidents as having been caused by forest fires or volcanoes. More recently, disruption of satellite systems -- by Russia against satellite phone communications being used by Chechen rebels and by Iran against Western satellite broadcasts -- has been reported. Also, one could interpret American air attacks on Iraqi satellite ground stations early in the 1991 Persian Gulf War as space control insofar as the intent was to deny Iraq access to overhead systems. Nonetheless, lethal or destructive force application from, to, or within near-earth space basically lies in the future.****

[Watts, Barry D.](http://www.spacedebate.org/author/1248) **The Military Use of Space: A Diagnostic Assessment. . Washington, D.C.:** [Center for Strategic and Budgetary Assessments](http://www.spacedebate.org/organization/1247)**, February 2001. [** [8 quotes](http://www.spacedebate.org/citation/1249) **]** [ *page 10* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1250" \t "admin) ]

**#2 – Space weaponization has not already occurred - Space is Militarized but not Weaponized -- Existing Space Assets are only Force Enhancers**

Some definitions may be useful here. The most general concept--space power--can be defined as using the space medium and assets located in space to enhance and project U.S. military power. Space militarization describes a situation in which the military makes use of space in carrying out its missions. There is no question that space has been militarized; U.S. armed forces would have great difficulty carrying out a military mission today if denied access to its guidance, reconnaissance, and communications satellites. But to date, military systems in space are used exclusively as "force enhancers," making air, sea, and land force projection more effective. The issue now is whether to go beyond these military uses of space to space weaponization: the stationing in space of systems that can attack a target located on Earth, in the air, or in space itself. Arguably, space is already partially weaponized. The use of signals from Global Positioning System (GPS) satellites to guide precision weapons to their targets is akin to the role played by a rifle's gunsight. But there are not yet space equivalents of bullets to actually destroy or damage a target.****

[Logsdon, John M.](http://www.spacedebate.org/author/605) **"**[*Just Say Wait to Space Power*](http://www.nap.edu/issues/17.3/p_logsdon.htm)**."** [Issues in Science and Technology](http://www.spacedebate.org/source/Issues%20in%20Science%20and%20Technology)**. Vol. 17, No. 3 (Spring 2001). [** [4 quotes](http://www.spacedebate.org/citation/1390) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1401" \t "admin) ]

**#3 – Strategic reasons do not make space weaponization inevitable - Space is Militarized but not Weaponized -- Existing Space Assets are only Force Enhancers**

Some definitions may be useful here. The most general concept--space power--can be defined as using the space medium and assets located in space to enhance and project U.S. military power. Space militarization describes a situation in which the military makes use of space in carrying out its missions. There is no question that space has been militarized; U.S. armed forces would have great difficulty carrying out a military mission today if denied access to its guidance, reconnaissance, and communications satellites. But to date, military systems in space are used exclusively as "force enhancers," making air, sea, and land force projection more effective. The issue now is whether to go beyond these military uses of space to space weaponization: the stationing in space of systems that can attack a target located on Earth, in the air, or in space itself. Arguably, space is already partially weaponized. The use of signals from Global Positioning System (GPS) satellites to guide precision weapons to their targets is akin to the role played by a rifle's gunsight. But there are not yet space equivalents of bullets to actually destroy or damage a target.****

[Logsdon, John M.](http://www.spacedebate.org/author/605) **"**[*Just Say Wait to Space Power*](http://www.nap.edu/issues/17.3/p_logsdon.htm)**."** [Issues in Science and Technology](http://www.spacedebate.org/source/Issues%20in%20Science%20and%20Technology)**. Vol. 17, No. 3 (Spring 2001). [** [4 quotes](http://www.spacedebate.org/citation/1390) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1401" \t "admin) ]

**#4 – Economic reasons do not make space weaponization inevitable - International Community could Decide to Mutually Refrain from Weaponizing Outer Space**

While legally banning antisatellite systems or activities associated with their use would not appear to add much value at the moment, it may be possible for nations to mutually refrain from activities that might be construed as threatening to the satellites of others. Such undertakings are not without precedent. When it has been within their general interests, nations have held back from employing certain weapons and engaging in certain activities during wartime, even in the absence of specific agreements. For the most part, the major powers avoided the use of chemical weapons during the Second World War. None of the nuclear states have employed their nuclear arsenals in military conflicts since the attacks on Hiroshima and Nagasaki in August 1945. Gven the cost of developing weapons in space and the ramifications of attacking a satellite and thereby inviting some sort of retaliation (either against one's own space systems or elsewhere), nations might conclude that the long-term costs are not worth the potential gains. As long as such mutual restraint is exercised, it may be possible for the space powers to uphold the principle of unfettered access to space without the need to actually employ antisatellite weapons either to deter or defend against their use by others.****

[Klotz, Frank G.](http://www.spacedebate.org/author/1461) ****[Space, Commerce, and National Security](http://www.cfr.org/content/publications/attachments/Space_Commerce_NationalSecurity.pdf)**. . Washington, D.C.:** [Council on Foreign Relations](http://www.spacedebate.org/organization/1463)**, January 1999. [** [12 quotes](http://www.spacedebate.org/citation/1462) **]** [ *page 18* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1476" \t "admin) ]

**#5 – Development of space weapons could lead to a space arms race - Defensive Weapons will be Countered by Offensive Weapons, Sparking an Arms Race**

The realisation of the increasing vulnerability of the United States to attacks against space assets has caused some to encourage Washington to begin to deploy defensive weapon systems to protect those assets from new weapons. While this could appear to make sense on a visceral or superficial level, a thoughtful analysis of the history of military development reveals basic flaws with this notion. Most importantly, history categorically demonstrates that effective defensive weapon systems will inevitably be countered by effective offensive systems, sparking an ever-spiralling arms race that ultimately leaves all sides less secure. For evidence supporting this contention, one need look no further than the second half of the 20th century and the nuclear arms race that dominated it. Until the United States and the Soviet Union signed the Anti-Ballistic Missile (ABM) Treaty in 1972, effectively preventing each side from deploying defensive systems, the world was engaged in a nuclear confrontation constantly threatening to escalate out of control. For this reason, I believe that - as with the Antarctic Treaty and the strategic nuclear arms control accords of the last three decades - the international community of space-faring nations will ultimately recognise the need for restraint and seek to develop some legal regime to preserve outer space as a non-militarised - or at least non-weaponised - realm. It is crucial that this happen as soon as possible.****

[Graham, Thomas](http://www.spacedebate.org/author/1733)**. "**[*International Law and the Military Uses of Space*](http://www.acronym.org.uk/dd/dd63/63op1.htm)**."** [Disarmament Diplomacy](http://www.spacedebate.org/source/Disarmament%20Diplomacy)**. No. 63 (March-April 2002). [** [1 reference](http://www.spacedebate.org/citation/1734) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1735" \t "admin) ]

**#6 – Development of space weapons could lead to a space arms race - SDI-era Space Weapons Push was Scuttled for Fear it would Ignite Space Arms Race with Soviet Union**

Another factor that has thus far worked against promoters of space-based defenses and other types of orbital weapons has been the threat of hostile international reactions. This point is related to the issue raised above, but has different implications. Specifically, given that space currently has no weapons, supporters of space sanctuary arguments have the power of precedent on their side in observing that the start of a space arms race by any country (based on the ample experience of such contests in other fields, from machine guns to nuclear weapons) is going to be met eventually by adversaries. The result is likely to be reduced (not enhanced) security for all countries. During the Cold War, critics of space weapons could very credibly argue that whatever the USA did in space would eventually be matched by the USSR, if not directly then by other means. Indeed, this important concept became embodied in the so-called "Nitze criteria" for evaluating the costs of the SDI program. Former senior Reagan administration official Paul Nitze argued that it only made sense to continue with the highly expensive effort to field space-based defenses if it could be done more cheaply than the Soviets could deploy countermeasures. The failure of SDI to come even close to meeting this costefficiency metric--according to the administration's own criteria--proved to be an important nail in its coffin in the late 1980s.

[Moltz, James Clay](http://www.spacedebate.org/author/517)**. "*Protecting Safe Access to Space: Lessons from the First 50 Years of Space Security*."** [Space Policy](http://www.spacedebate.org/source/Space%20Policy)**. Vol. 23 (November 2007): 199-205. [** [12 quotes](http://www.spacedebate.org/citation/3149) **]** [ *page 203* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=3154" \t "admin) ]

**#7 – US is not planning on developing or deploying space weapons - U.S. Unlikely to Weaponize Space in the Near-Term, Unless a Clear Threat Emerges**

Most would agree that space weaponization is not inevitable in the near term. Indeed, there is scant observable evidence to suggest that the military use of near-earth space will be substantially different in 2020-2025 than it is today, at least regarding the development and fielding of new technologies and systems that would broaden the use of our on-orbit assets from force enhancement to force application -- unless, of course, some unforeseen trigger event occurred to provoke it. It naturally follows that any U.S. space weaponization that eventually occurs, whether preemptive or reactive, will most likely be threat-driven rather than as a result of prior unprovoked choice. Former Air Force chief of staff General Michael Ryan suggested as much when he stated: "I don't think you'll see us moving real fast until some threat occurs?a huge threat, a threat that makes a big dollar difference. Then you'll see a shift in policy."

[Lambeth, Benjamin S.](http://www.spacedebate.org/author/971)[Mastering the Ultimate High Ground: Next Steps in the Military Uses of Space](http://www.rand.org/publications/MR/MR1649/)**. Santa Monica, CA:** [RAND Corporation](http://www.spacedebate.org/organization/970)**, 2003. [** [5 quotes](http://www.spacedebate.org/citation/969) **]**

**#8 - US is not planning on developing or deploying space weapons - U.S. is not planning to weaponize outer space**

The United States does not have any weapons in space, a State Department arms control official says, nor does it have plans to build any.
John Mohanco told members of the Conference on Disarmament in Geneva June 13 that the United States steadfastly is committed to the exploration and use of space "by all nations for peaceful purposes." Mohanco, who is deputy director of the State Department's Office of Multilateral Nuclear and Security Affairs, defined peaceful purposes as including "appropriate defense activities in pursuit of national security and other goals."

He said parties to the treaty "have demonstrated that the peaceful use of space is completely consistent with military activity in space." Threats to the peaceful use of space, the oceans or the atmosphere "come not from the existence of military hardware," Mohanco said, "but from those who would disturb the peace no matter [what] the environment."

The necessity of using space to support commercial and military operations has led the United States to study the potential of space-related weapons to protect its space-based remote sensing or communications satellites from potential future surface-generated or space-based attacks, he said.

As long as the possibility exists that spacecraft, space stations or satellites could be attacked, Mohanco said the U.S. government "will consider the possible role that space-related weapons may play in protecting our assets."

Representing the State Department's Bureau of International Security and Nonproliferation, he said there is neither an arms race taking place in outer space, nor any "problem in outer space for arms control to solve."****

[U.S. State Department](http://www.spacedebate.org/organization/2166/)**. "**[*U.S. Remains Committed to Peaceful Uses of Space*](http://usinfo.state.gov/xarchives/display.html?p=washfile-english&y=2006&m=June&x=20060616172021sjhtrop8.289737e-02&t=livefeeds/wf-latest.html)**." Washington File. June 16, 2006.** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2168" \t "admin) ]

*THE US SHOULD WEAPONIZE SPACE*

GROUP 3 - PRO: US WEAPONIZATION OF SPACE WOULD BE ADVANTAGEOUS

**#1 - U.S. Should Develop Space Weapons to Deter and Dissuade Attack Against its Space Assets**

Currently, satellites are expensive and fragile and can be disrupted by relatively inexpensive weapons. Although several countries possess the latent capability to engage in space warfare, this option has never been exercised. A direct attack against a satellite would be a first and would be unlikely to be an isolated attack. The consequences of engaging in such a conflict would likely be severe. Depending on the scale of the exchange, it is possible that many low-Earth orbit assets could be affected, thereby denying both military and civilian users these resources. This is precisely why the United States must work to dissuade hostile parties from further developing these capabilities, deter them from using them if they do develop them, and be prepared to both respond and minimize the consequences should deterrence fail.****

[Spencer, Jack](http://www.spacedebate.org/author/1564) **and** [Kathy Gudgel](http://www.spacedebate.org/author/1565)**. "**[*The 2005 Quadrennial Defense Review: China and Space�The Unmentionable Issues*](http://www.heritage.org/Research/NationalSecurity/wm819.cfm)**." . WebMemo #819 (August 11, 2005). [** [2 quotes](http://www.spacedebate.org/citation/1566) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1567" \t "admin) ]

**#2 – Key to US hegemony - U.S. Global Power is a Result of its Control of the Global Commons (Air, Sea, and Space)**

The U.S. military currently possesses command of the global commons. Command of the commons is analogous to command of the sea, or in Paul Kennedy�s words, it is analogous to �naval mastery.� The �commons,� in the case of the sea and space, are areas that belong to no one state and that provide access to much of the globe. Airspace does technically belong to the countries below it, but there are few countries that can deny their airspace above 15,000 feet to U.S. warplanes. Command does not mean that other states cannot use the commons in peacetime. Nor does it mean that others cannot acquire military assets that can move through or even exploit them when unhindered by the United States. Command means that the United States gets vastly more military use out of the sea, space, and air than do others; that it can credibly threaten to deny their use to others; and that others would lose a military contest for the commons if they attempted to deny them to the United States. Having lost such a contest, they could not mount another effort for a very long time, and the United States would preserve, restore, and consolidate its hold after such a fight. Command of the commons is the key military enabler of the U.S. global power position. It allows the United States to exploit more fully other sources of power, including its own economic and military might as well as the economic and military might of its allies. Command of the commons also helps the United States to weaken its adversaries, by restricting their access to economic, military, and political assistance. Command of the commons has permitted the United States to wage war on short notice even where it has had little permanent military presence. This was true of the 1991 Persian Gulf War, the 1993 intervention in Somalia, and the 2001 action in Afghanistan. ****

[Posen, Barry R.](http://www.spacedebate.org/author/1726) **"**[*Command of the Commons: The Military Foundation of U.S. Hegemony*](http://mitpress.mit.edu/catalog/item/default.asp?ttype=6&tid=11093)**."** [International Security](http://www.spacedebate.org/source/International%20Security)**. Vol. 28, No. 1 (Summer 2003): 5-46. [** [3 quotes](http://www.spacedebate.org/citation/1727) **]** [ *page 8-9* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1728" \t "admin) ]

**#3 – US needs force projection weapons - The Common Aerospace Vehicle (CAV) would allow global strategic strike from space**

Conventional warheads delivered from space are yet another candidate for the space weapons arsenal. (A conventional intercontinental ballistic missile, or ICBM, which also delivers bombs from above,
spends relatively little time in space during its trajectory and is not a space weapon.) One proposal for delivering large quantities of conventional explosives is the Common Aero Vehicle (CAV), a robotic
hypersonic aircraft much like a miniature space shuttle. Championed by the U.S. Air Force and the Defense Advanced Research Projects Agency, the Pentagon's entrepreneurial R&D wing, based in Arlington, Va., the CAV would be launched into orbit by a land-based missile, aircraft, or some as-yet-undeveloped military space plane. To attack, a CAV would come down from orbit, reenter Earth's atmosphere, and maneuver to its target at speeds as high as Mach 25. Like the ICBM, the CAV would have one political edge over conventional aircraft: because the vehicle would reenter sovereign airspace only over the target country, the attacker would need no permission to fly over other countries.

[Deblois, Bruce M.](http://www.spacedebate.org/author/515)**,** [Jeremy C. Marwell](http://www.spacedebate.org/author/1031) ***et al*. "**[*Star-Crossed*](http://www.spectrum.ieee.org/WEBONLY/publicfeature/mar05/0305star.html)**."** [IEEE Spectrum](http://www.spacedebate.org/source/IEEE%20Spectrum)**. (March 2005). [** [4 quotes](http://www.spacedebate.org/citation/1344) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1347" \t "admin) ]

**#4 - Space Power Necessary to Deal with Extraterrestrial Space Threats**

Strategically, though not quite geographically, space is just another environment for conflict. The caveat with respect to geographical parallels is the evident difference in scale--the "quantity that becomes quality"--between the Earth and its atmosphere and the remainder of the universe ( i.e., space). Notwithstanding the vast asymmetry between the terrestrial geographical environments and space, it is not entirely obvious that "the stars" or "the heavens" have strategic significance for contemporary defense planners. Threats originating from far beyond the Earth-Moon system may appear from beyond our solar system or even from beyond our galaxy. If they do, we will be fortunate if we are able even to note the approach of such threats, let alone be equipped to see them at launch. In the long run, the very long run indeed, the security of the human race most likely will depend upon its space power. The dinosaurs faced a grim prospect between emigration and extinction and were condemned technologically to the latter. Fortunately for us, the random menace from fast-moving alien objects in space would appear to pose far more severe a threat to life on Earth than does purposeful menace from alien civilizations that would be unschooled in the niceties of the Geneva Convention. An asteroid may just terminate the human experience and settle religious arguments, but at least in principle it is detectable, trackable, and possibly divertable. By way of caveat, any animate, purposeful, alien menace that could reach Earth from another solar system, let alone from another galaxy, can be assumed to be likely to enjoy a decisive technological edge for superior strategic effect.****

[Gray, Colin S.](http://www.spacedebate.org/author/514) **"**[*Space Power and the Revolution in Military Affairs: A Glass Half Full?*](http://www.airpower.maxwell.af.mil/airchronicles/apj/apj99/fal99/gray.html)**."** [Air & Space Power Journal](http://www.spacedebate.org/source/Air%20%26%20Space%20Power%20Journal)**. XIII, No. 3 (Fall 1999). [** [2 quotes](http://www.spacedebate.org/citation/520) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1523" \t "admin) ]

**#5 - Space Weapons in the Hands of Democratic States can Improve Global Peace and Stability**

Second, enhanced military power in the hands of states that uphold the rule of international law can work to improve peace and stability in the world. Treaties dealing with the space environment are written to establish stability and order on the space frontier. And this is good. Washington has never considered space to be a domain of anarchy. Indeed, it is in the U.S. interest to develop proper laws and exercise force in a restrained and responsible manner to prevent space from devolving into a lawless, disorderly realm.****

[Lambakis, Steven](http://www.spacedebate.org/author/544)**. *"***[*Putting Military Uses of Space in Context*](http://cns.miis.edu./pubs/opapers/op10/op10.pdf)**." Future Security in Space: Commercial, Military, and Arms Control Trade-Offs. Ed. James Clay Moltz. Monterey, CA:** [Center for Nonproliferation Studies](http://www.spacedebate.org/organization/977)**, 2002. [** [4 quotes](http://www.spacedebate.org/citation/1629) **]** [ *page 25* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1632" \t "admin) ]

**#6 - U.S. is Best Suited Morally and Technologically to Dominate Outer Space**

Space has the unique capacity of being the 'unflankable' high ground. So tactically advantageous is the high ground position that has both line of site over and defensive domination of the battlefield that commanders have always sought it. Space control is not only tactically advantageous on the battlefield, it is strategically so in diplomacy. The entity in control of space has real-time presence and persistence over the globe. So strong is the fortified position at the top of the Earth's gravity well that should any nation seize it, it could effectively deny access to space to any other state that should attempt to put assets there. A simple argument could be made that the United States has an imperative to seize control of space on this point alone, to prevent a dangerous enemy from taking it, but such a case could be made for any state that desired domination over the world. My point is that not only is the United States the sole country with the capacity to seize space (currently), it is the only great power that has a history of benign intervention and overall disdain of empire that it is morally important it do so before any state bent on world domination and oppression can.****

[Dolman, Everett C.](http://www.spacedebate.org/author/1064) ****[Space Power and US Hegemony: Maintaining a Liberal World Order in the 21st Century](http://www.gwu.edu/~spi/spaceforum/Dolmanpaper%5B1%5D.pdf)**. . : , 2003. [** [3 quotes](http://www.spacedebate.org/citation/1602) **]** [ *page 23-4* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1715" \t "admin) ]

**#7 - U.S. Dominance of Low-Earth Orbit would Prevent an Arms Race**

Seizing the initiative and securing low-Earth orbit now, while the United States is unchallenged in space, would do much to stabilize the international system and prevent an arms race in space. The enhanced ability to deny any attempt by another nation to place military assets in space and to readily engage and destroy terrestrial anti-satellite capacity would make the possibility of large-scale space war or military space races less likely, not more. Why would a state expend the effort to compete in space with a superpower that has the extraordinary advantage of holding securely the highest ground at the top of the gravity well? So long as the controlling state demonstrates a capacity and a will to use force to defend its position, in effect expending a small amount of violence as needed to prevent a greater conflagration in the future, the likelihood of a future war in space is remote.****

[Dolman, Everett C.](http://www.spacedebate.org/author/1064) **"*U.S. Military Transformation and Weapons in Space*."** [SAIS Review](http://www.spacedebate.org/source/SAIS%20Review)**. XXVI, No. 1 (Winter-Spring 2006): 163-174. [** [10 quotes](http://www.spacedebate.org/citation/2291) **]** [ *page 171* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2311" \t "admin) ]

**#8 - Space Weapons in the Hands of Democratic States can Improve Global Peace and Stability**

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[Lambakis, Steven](http://www.spacedebate.org/author/544)**. *"***[*Putting Military Uses of Space in Context*](http://cns.miis.edu./pubs/opapers/op10/op10.pdf)**." Future Security in Space: Commercial, Military, and Arms Control Trade-Offs. Ed. James Clay Moltz. Monterey, CA:** [Center for Nonproliferation Studies](http://www.spacedebate.org/organization/977)**, 2002. [** [4 quotes](http://www.spacedebate.org/citation/1629) **]** [ *page 25* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1632" \t "admin) ]

*THE US SHOULD WEAPONIZE SPACE*

GROUP 3 - CON: US WEAPONIZATION OF SPACE WOULD NOT BE ADVANTAGEOUS

**#1 - Deployment of Space Weapons would Cripple Commercial Space Sector by Increasing Costs for Satellite Insurance**

**B**eyond the use of weapons in space, the satellite insurance business is extremely volatile. In the last four years, satellite insurance rates have risen by 129 per cent, driven by increasing complexity and anomalies of satellite systems. The mere presence of weapons poses a risk, and insurance companies structure their rates on risk estimates. The resolution approach for the insurers will be to strengthen their exclusion clauses for acts of war -- pass the risks to the financiers, who will have to decide to go to space without such insurance coverage, or not go at all. The combination of weapons posturing and/or use may well cause increasing debris, expensive hardening and increasing risk (perceived by insurers and/or assumed by financiers), all producing an inaccessible international commercial space environment.****

[Deblois, Bruce M.](http://www.spacedebate.org/author/515) **"****[*The Advent of Space Weapons*](http://www.google.com/url?sa=U&start=1&q=http://www.cfr.org/pdf/Bergman_11ast03.pdf&e=10342)**."** [Astropolitics](http://www.spacedebate.org/source/Astropolitics)**. Vol. 1, No. 1 (Summer 2003). [** [15 quotes](http://www.spacedebate.org/citation/966) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1527" \t "admin) ]

**#2 - Space Weapons would Hinder Civil and Commercial Space Development by Increasing Space Debris**

Unfortunately, there are between 30,000 and 100,000 untracked objects between 1 cm and 10 cm diameter (large enough to cause serious damage to spacefaring vehicles), and an unknown but enormous number of particles smaller than 1 cm (many of which could damage sensitive systems on impact). While the space environment is extremely large and the probability of an impact is still small, that probability is growing. .or some space missions active protection through shielding is already a requirement (e.g. the International Space Station). Getting this shielding to orbit is an added expense to an already low-profit-margin industry. Any weapon use in space, but particularly proliferating weapons use in space, could readily make space a no-go area of dangerous debris, in the process pre-empting commercial and civil development.****

[Deblois, Bruce M.](http://www.spacedebate.org/author/515) **"****[*The Advent of Space Weapons*](http://www.google.com/url?sa=U&start=1&q=http://www.cfr.org/pdf/Bergman_11ast03.pdf&e=10342)**."** [Astropolitics](http://www.spacedebate.org/source/Astropolitics)**. Vol. 1, No. 1 (Summer 2003). [** [15 quotes](http://www.spacedebate.org/citation/966) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1528" \t "admin) ]

**#3 - Backlash Against U.S. Deployment of Space Weapons Could Undermine U.S. Conventional Strength**

Given the extraordinary and growing differential in power that the United States enjoys in ground warfare, sea power, and air power, it is hard to propound compelling arguments for seeking to supplement these advantages by weaponizing space. The current U.S. lead in the military utilization of space has never been greater and is unchallenged. If the United States pushes to extend its pronounced military dominance into space, others will view this through the prism of the Bush administration's national security strategy, which places emphasis on preventive war and preemption. Foreign leaders will not passively accept U.S. initiatives to implement a doctrine of space dominance. They will have ample, inexpensive means to take blocking action, as it is considerably easier to negate U.S. dominance in space than on the ground, at sea, and in the air. The introduction of space weaponry and ASAT testing are therefore likely introduce grave complications for the terrestrial military advantages that the United States has worked so hard, and at such expense, to secure. ****

[Katz-Hyman, Michael](http://www.spacedebate.org/author/2145) **and** [Michael Krepon](http://www.spacedebate.org/author/577)**.** [Assurance or Space Dominance? The Case Against Weaponizing Space](http://www.stimson.org/pub.cfm?id=81)**. . Washington, D.C.:** [Henry L. Stimson Center](http://www.spacedebate.org/organization/497)**, April 2003. [** [16 quotes](http://www.spacedebate.org/citation/974) **]** [ *page 89* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1304" \t "admin) ]

**#4 - U.S. Weaponization of Space would Complicate Diplomacy and Disrupt Alliances**

Beyond adversarial responses, allies and partners abroad might also react unfavorably. Any unilateral decision to weaponize space might have negative consequences for diplomatic relationships worldwide. The European Union has been a consistent and vocal critic and, as validated by multiple resolutions in the UN regarding the prevention of an arms race in outer space (PAROS), reflects the opinions of the larger international community. In response to proposed US tests of its mid-infrared advanced chemical laser (MIRACL), an official from the European Space Agency commented: 'The world space community is confused as to the need for the US to develop space weaponry now, and is dismayed that the US is planning to test a high-powered laser against a satellite target'. Although it is unlikely that weapons in space would threaten or sever strong existing diplomatic ties, simple unpopularity might prompt a shift in the international center of gravity. Countries opposing or alienated by one states' space policy might gravitate to other alignments, possibly creating an international coalition to oppose the space-weaponizing country on these and other issues within international organizations such as the UN or the World Trade Organization (WTO). A decision to posture weapons in space might also diminish the ability of the space-weaponizing country to assemble international coalitions. In the case of the United States, such international political clout has been crucially important to the military, political, judicial and economic conduct of the war on terrorism. These forms of diplomatic influence might be more important than hard power in the maintenance of global stability in the twenty-first century. ****

[Deblois, Bruce M.](http://www.spacedebate.org/author/515) **"****[*The Advent of Space Weapons*](http://www.google.com/url?sa=U&start=1&q=http://www.cfr.org/pdf/Bergman_11ast03.pdf&e=10342)**."** [Astropolitics](http://www.spacedebate.org/source/Astropolitics)**. Vol. 1, No. 1 (Summer 2003). [** [15 quotes](http://www.spacedebate.org/citation/966) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1534" \t "admin) ]

**#5 - Adversaries Will Pursue Weapons of Mass Destruction to Counter U.S. Dominance in Space**

The flight-testing and deployment of space weaponry has been inextricably linked to the dangers associated with weapons of mass destruction. The initial prohibitions on space weaponry, after all, were expressly tied to weapons of mass destruction. During the Cold War, space warfare was widely considered a harbinger of nuclear warfare, given the connectivity of satellites most likely to be attacked with the command, control, and targeting of nuclear forces. This linkage has not disappeared with the dissolution of the Soviet Union and the advent of extreme forms of asymmetric warfare and terrorism. States possessing nuclear weapons that might become adversaries to the United States could view U.S. initiatives to weaponize space as an attempt to negate their deterrents. Space-to-ground warfare initiatives to further extend U.S. military advantages could therefore prompt compensatory steps by weaker states, including the accelerated pursuit of unconventional weapons. ****

[Katz-Hyman, Michael](http://www.spacedebate.org/author/2145) **and** [Michael Krepon](http://www.spacedebate.org/author/577)**.** [Assurance or Space Dominance? The Case Against Weaponizing Space](http://www.stimson.org/pub.cfm?id=81)**. . Washington, D.C.:** [Henry L. Stimson Center](http://www.spacedebate.org/organization/497)**, April 2003. [** [16 quotes](http://www.spacedebate.org/citation/974) **]** [ *page 102* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1181" \t "admin) ]

**#6 - Anti-Satellite Space Weapons are Inherently Escalatory**

During the Cold War, the linkage between military space systems and nuclear deterrence conferred a high escalatory potential to ASAT use. As Kurt Gottfried and Richard Ned Lebow concluded in 1985, when the executive branch last sought to weaponize space, "ASATs possess a considerably greater capacity for transforming a crisis into a war, and for enlarging wars, than they do for assisting in military missions or enhancing deterrence." The particulars of escalation have necessarily changed from the Cold War to asymmetric warfare, but the inherently escalatory nature of ASAT use remains inescapable. The flight-testing and deployment of space weaponry by any nation would likely generate responses in kind, as well as asymmetric responses. U.S. battle stations in space would become prime targets in the event of warfare and thus magnets for space mines or other countering devices that would cost a small fraction of the platforms to be defended. Because the presumed advantage in space warfare goes to the side that strikes first, preemption or preventive war is likely to constitute the backbone of space warfare doctrine for the defender as well as the attacker. Consequently, the deployment of space weapons would be inherently provocative and destabilizing, not only because weaker as well as stronger states would associate such weaponry with preemptive strikes, but also because distinctions between offensive and defensive weapons in space would largely cease to have practical meaning.****

[Katz-Hyman, Michael](http://www.spacedebate.org/author/2145) **and** [Michael Krepon](http://www.spacedebate.org/author/577)**.** [Assurance or Space Dominance? The Case Against Weaponizing Space](http://www.stimson.org/pub.cfm?id=81)**. . Washington, D.C.:** [Henry L. Stimson Center](http://www.spacedebate.org/organization/497)**, April 2003. [** [16 quotes](http://www.spacedebate.org/citation/974) **]** [ *page 90* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1423" \t "admin) ]

**#7 - Space Weapons Invite Pre-emption and Escalation in Regional Context**

One such Commander in a recent war game commented, 'If I don't know what's going on because I have lost my eyes and ears in space, I have no choice but to hit everything, with everything I have.' That this conclusion actually surprised strategists suggests that we have not fully explored the implications of space weapons. What is common knowledge, described from years of futuristic war games, is that permanently based space weapons invite pre-emption and escalation. Local to a regional situation of heightened tensions, the existence of space weapons on one side, the other, or both could be the determining catalyst for full-scale war.****

[Deblois, Bruce M.](http://www.spacedebate.org/author/515) ***"***[*Weapons in Space*](http://www.ceip.org/files/projects/npp/pdf/conference/lottmantranscripts/Deblois.pdf)**." Carnegie International Non-Proliferation Conference. Ed. . Washington, D.C.:** [Council on Foreign Relations](http://www.spacedebate.org/organization/1463)**, . [** [3 quotes](http://www.spacedebate.org/citation/2140) **]** [ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=2141" \t "admin) ]

**#8 - Tight Budgets Mean Space Weaponization will Tradeoff with Modernization Efforts**

Despite a proposed 7% increase in the Department of Defense (DoD) budget, resources are constrained. The billions of dollars -- some estimates are in the tens of billions -- needed to develop space-based weapon capabilities will take money from transformation efforts that will make greater contributions to the nation's security, both now and in the long term. Retired Navy Vice Admiral Arthur Cebrowski, DoD's new Director of Force Transformation is correct in his oft-stated view that "numbers matter." Weaponizing space will mean fewer ships, planes, tanks, and other platforms capable of taking the fight to the enemy.

[Coleman, Sean J.](http://www.spacedebate.org/author/1007) **"*Space Based Weapons are Wrong*."** [U.S. Naval Institute Proceedings](http://www.spacedebate.org/source/U.S.%20Naval%20Institute%20Proceedings)**. (February 2002): 96. [** [1 reference](http://www.spacedebate.org/citation/1009) **]** [ *page 96* ][ [Edit](http://www.spacedebate.org/admin/db.php?mode=edit&dt=23&id=1010) ]