

Resources on outer space security

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Reference documents

- Conference on Disarmament documents <http://disarmament.un.org/cd/cd-docs.html>
Archive of CD documents, including those relevant to PAROS.
- United Nations Office for Outer Space Affairs <http://www.oosa.unvienna.org/>
The United Nations office responsible for promoting international cooperation in the peaceful uses of outer space. Section on Space Law contains full text of United Nations resolutions concerning space and relevant treaties.

Analysis

- Garwin, Richard L., 1982, *Militarization of Space*, presentation to the United States Senate Foreign Relations Committee Hearings on Militarization of Space, Washington DC, 20 September. Offers an interesting historical perspective of the space debate twenty years ago.
<http://fas.org/rlg/092082mos.htm>
- Grier, Peter, 2001, The New Nuclear 'Theology', *Christian Science Monitor*, 8 May. Discusses American plans for possible missile defence systems.
<http://www.csmonitor.com/durable/2001/05/08/fp1s2-csm.shtml>
- Grossman, Karl, 2000, Astro-Imperialism: War in Space, *Earth Island Journal*, vol. 15, no. 1 (spring), p. 40. Criticizes the United States Space Command intentions to control and dominate space.
<http://yeoldeconsciousnessshoppe.com/art1.html>
- Hitchens, Theresa, 2001, Rushing to Weaponize the Final Frontier, *Arms Control Today*, vol. 31, no. 7 (September). Considers two recent policy changes made by the United States (space control and missile defence) and discusses their potential political, commercial and national security ramifications.
http://www.armscontrol.org/act/2001_09/hitchenssept01.asp?print
- International Network of Scientists and Engineers Against Proliferation, 2002, Space without Weapons, *INESAP Bulletin*, no. 20 (August). Contains articles on numerous aspects of space weaponization; includes an extensive bibliography. <http://www.inesap.org./bulletin20/bulletin20.htm>

- Logsdon, John M., 2001, Just Say Wait to Space Power, *Issues in Science and Technology*, vol. 17, no. 3 (spring), p. 33. Argues that the United States should not pursue space control and weaponization before undertaking broad public discussions.
http://www.nap.edu/issues/17.3/p_logsdon.htm
- Moltz, James Clay (ed.), 2002, *Future Security in Space: Commercial, Military and Arms Control Tradeoffs*, The Center for Nonproliferation Studies at the Monterey Institute of International Studies (Occasional Paper no. 10). Contains articles concerning background issues, alternatives and proposals on space security.
<http://cns.miis.edu./pubs/opapers/op10/op10.pdf>
- Moore, Mike, 2001, Watch out for Space Command, *Bulletin of the Atomic Scientists*, vol. 57, no. 1 (January), pp. 24–25. Warns that the United States Space Command is intent on militarily dominating space with space-based weapons, despite the push from the international community to outlaw weapons in space. <http://www.thebulletin.org/issues/2001/jf01/jf01mmoore.html>
- , 2001, Non-aggressive Weapons?, *Bulletin of the Atomic Scientists*, vol. 57, no. 2 (March), pp. 17–19. Summarizes the Space Commission Report and examines its underlying implications for the development of space-based weapons.
<http://www.thebulletin.org/issues/2001/ma01/ma01rmoore.html>
- Preston, Bob, et al., 2002, *Space Weapons Earth Wars*, Project Air Force, RAND. Describes space weapons, acquisition methods, threat perceptions and possible responses.
<http://www.rand.org/publications/MR/MR1209/>
- Saperstein, Al, 2002, Weaponization vs. Militarization of Space, *Physics and Society*, vol. 31, no. 3 (July). Underscores the differences between the weaponization and militarization of space. Includes discussion on how space could be weaponized by certain states in the future.
<http://www.aps.org/units/fps/jul02/index.html>
- Union of Concerned Scientists, 2002, *Limitations and Artificialities of the Testing Program*. Interactive demonstration of the missile defence tests of the United States and explains how the tests have failed to demonstrate that such a system will be successful in an actual attack.
http://www.ucsusa.org/global_security/missile_defense/page.cfm?pageID=1026

Looking ahead, proposals and responses

- Bunn, George and John B. Rhinelander, 2002, Outer Space Treaty May Ban Strike Weapons, *Arms Control Today*, vol. 32, no. 5 (June), p. 24. Argues that the Outer Space Treaty already addresses the stationing of strike weapons in LEO.
http://www.armscontrol.org/act/2002_06/letterjune02.asp
- DeBlois, Bruce M., 1998, Space Sanctuary: A Viable National Strategy, *Airpower Journal*, vol. 12, no. 4 (winter). Comprehensive article addressing the various aspects of the weaponization of space, including political and financial concerns, threat potentials, and technological limitations. Argues for the preservation of space as a peaceful medium.
<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj98/win98/deblois.html>
- Garwin, Richard L., 1999, *Toward International Security: The Development of Space Weapons, ASAT Testing, and National Missile Defense*. Advocates international discussion on the ban of weapons in space and ASAT testing.
<http://www.fas.org/rlg/102599-lakhdhir.htm>

- Johnson, Rebecca, 2001, *Multilateral Approaches to Preventing the Weaponisation of Space, Disarmament Diplomacy*, Issue 56 (April). Proposes that an independent conference be convened to negotiate a new multilateral treaty on the prohibition of space-based weapons.
<http://www.acronym.org.uk/dd/dd56/56rej.htm>
- Moltz, James Clay, 2002, *Breaking the Deadlock on Space Arms Control, Arms Control Today*, vol. 32, no. 3 (April). Reviews the history of the space weapons debate and offers a compromise proposal.
http://www.armscontrol.org/act/2002_04/moltzapril02.asp
- Proposed Treaty on the Limitation of the Military Use of Outer Space*, 1984. Proposal to ban all forms of space-based weapons. <http://www.mcmd.org/SpaceWeaponsBan/GoettingenTreaty.pdf>
- Space Preservation Act of 2002*, HR 3616, January 2002. Bill introduced to the United States House of Representatives in order to prohibit the weaponization of space.
http://www.pnmd.org/us_space_preservation_bill.htm
- White, Robert E., 2001, *Preserving Space for Peaceful Use: A Case for a New Space Treaty*, Auckland, New Zealand, Centre for Peace Studies (Working Paper no. 10). Argues against the development of weapons in space, including an outline for a new treaty banning the weaponization of outer space.
<http://www.converge.org.nz/pma/sptreaty.doc>
- Working Paper Presented by the Delegations of China, the Russian Federation, Viet Nam, Indonesia, Belarus, Zimbabwe and Syria: Possible Elements for a Future International Legal Agreement on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects* (Russia-China CD Working Paper). Paper submitted to the Conference on Disarmament on 27 June 2002. <http://www.acronym.org.uk/docs/0206/doc10.htm>

National and regional perspectives

Note: the World Space Guide of the Federation of American Scientists has valuable information and links on civil and military space programmes by country. See < <http://www.fas.org/spp/guide/index.html>>. CD documents (see Reference Documents section) also contain national perspectives.

ASIA

- Contant, Corine and Lawrence Cooper, 2000, *The People's Republic of China: Consolidating its Space Power, Enhancing its Military Might*, in Rebecca Jimerson and Ray A. Williamson (eds.), *Space and Military Power in East Asia*, Washington DC, George Washington University, Space Policy Institute. Assesses China's military space power and technological developments, as well as the potential implications for the United States. <http://www.gwu.edu/~spi/spacemilch1.html>
- Gauthier, Katheryn, 1999, *China as Peer Competitor?*, Air University Research Papers. Presents evidence suggesting that China has the potential to become a competitor of the United States as the margin of military advantages between these two states in information warfare, weaponry and space technology are declining.
<http://www.iwar.org.uk/iwar/resources/usaf/maxwell/students/1999/max18.htm>
- Jimerson, Rebecca, 2000, *North Korea: Locked in a Space Race with the World*, in Rebecca Jimerson and Ray A. Williamson (eds.), *Space and Military Power in East Asia*, Washington DC, George

- Washington University, Space Policy Institute. Discusses North Korea's military structure, doctrine and emerging technologies, focusing on military space developments.
<http://www.gwu.edu/~spi/nkorea.html>
- Marquez, Peter J., 2000, South Korea: A Space Power by Proxy, in Rebecca Jimerson and Ray A. Williamson (eds.), *Space and Military Power in East Asia*, Washington DC, George Washington University, Space Policy Institute. Assesses South Korea's space technology programmes and its military uses and implications.
<http://www.gwu.edu/~spi/spacemilch6.html>
- People's Republic of China, 2000, *China's position on and suggestions for ways to address the issue of prevention of an arms race in outer space*, Conference on Disarmament document 1606 of 9 February. Working paper by China to the CD discussing China's views on PAROS and its suggestions for new international legal instruments.
<http://www.unog.ch/disarm/curdoc/1606.htm>
- United States, 2000, *Annual Report on the Military Power of the People's Republic of China: Report to Congress Pursuant FY 2000 National Defense Authorization Act*. Details military capabilities of China, including the recent acquisition of ASAT weapons.
<http://www.defenselink.mil/news/Jul2002/d20020712china.pdf>

CANADA

- Canada, 1998, *Working Paper Concerning CD Action on Outer Space*, Conference on Disarmament document CD/1487 of 21 January. A working paper presented to the CD indicating Canada's wish to establish an ad hoc committee on outer space with the intention to formulate a formal ban on weapons in outer space.
<http://www.unog.ch/frames/disarm/curdoc/1487.htm>
- Canada, Department of Foreign Affairs and International Trade, *Outer Space*. Summarizes Canada's official position on outer space, with links to policy statements and documents.
<http://www.dfait-maeci.gc.ca/arms/outer3-e.asp>

EUROPE

- Centre national d'études spatiales (France) http://www.cnes.fr/WEB_UK/
 Contains information on French space programmes.
- European Commission, 2003, *Green Paper on European Space Policy*. Discusses commercial and military aspects of space, and projects a more active future in developing space markets and global security initiatives through space technology and the Global Monitoring for the Environment and Security (GMES).
http://europa.eu.int/comm/space/doc_pdf/greenpaper_en.pdf
- European Space Agency <http://www.esa.int/export/esaCP/index.html>
 Contains information on European programmes, as well as on the national space agencies of the fifteen member states.
- United Kingdom, Ministry of Defence <http://www.mod.uk>
 Contains information on the United Kingdom's space policy.

RUSSIAN FEDERATION

- Russian Aviation and Space Agency <http://www.rosaviakosmos.ru/english/eindex.htm>
Contains information on civil space activities.
- Russian Federation, Ministry of Defense <http://www.fas.org/spp/civil/russia/mo.htm>
Contains information in English concerning the Russian Federation's military space activities.
- Russian space industry <http://www.fas.org/spp/civil/russia/>
Contains summary, information and links concerning Russian space activities.

UNITED STATES

- Belote, Howard D., 2000, *The Weaponization of Space: It Doesn't Happen in a Vacuum*, *Airpower Journal*, vol. 14, no. 1 (spring). Analyses the historical debate within the Air Force on the development of space weapons.
<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj00/spr00/belote.htm>
- Commission to Assess United States National Security Space Management and Organization, 2001, *Report of the Commission to Assess United States National Security Space Management and Organization*. Commission to Assess United States National Security Space Management and Organization (also known as the Space Commission Report). Assesses various national security threats in space to commercial, military and civilian interests, and offers recommendations.
<http://www.defenselink.mil/pubs/space20010111.html>
- Background papers available at
<http://www.globalsecurity.org/space/library/report/2001/nssmo/support-docs.htm>
- Estes III, Howell M., 1996, *Space: Fourth Medium of Military Operations*, presentation at the Air Force Association Annual Symposium, Los Angeles, California, 18 October. Argues that the evolution of space capabilities from surveillance and force enhancement to force application is inevitable and vital in order to protect American space capabilities.
<http://www.defenselink.mil/speeches/1996/s19961018-estes.html>
- Hays, Peter, 2002, *United States Military Space Into the Twenty First Century*, United States Air Force Academy, Institute for National Security Studies (Occasional Paper no. 42) pp. 85–88. Outlines contentious issues concerning the future of space. <http://usafaspace.tripod.com/other.html>
- Hays, Peter and Karl Mueller, 2001, *Going Boldly—Where?*, *Airpower Journal*, vol. 15, no. 1 (spring). Highlights inconsistencies in the Air Force's approach to 'aerospace integration'.
<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj01/spr01/hays.htm>
- Hyten, John E., 2000, *A Sea of Peace or a Theatre of War*, ACDIS Occasional Paper (April). Gives a background on the historical evolution of space weapons and discusses some of the criticisms and recommendations for future space policy for the Air Force.
http://www.acdis.uiuc.edu/homepage_docs/pubs_docs/OP_files/OPs_online.html
- Johnson-Freese, Joan, 2000, *The Viability of US Anti-Satellite (ASAT) Policy: Moving Toward Space Control*, United States Air Force Occasional Paper. Discusses the past, present and future of ASAT policy in the United States.
<http://www.usafa.af.mil/inss/ocp30.htm>

- Oberg, James E., 1998, *Space Power Theory*, United States Air Force. Outlines Oberg's theory of military space power (that is it inseparable from all forms of terrestrial power) and implications for the American military and government.
http://www.jamesoberg.com/books/spt/new-CHAPTERSw_figs.pdf
- Pike, John, 1998, *American Control of Outer Space in the Third Millennium*, paper prepared for the Commission to Assess United States National Security Space Management and Organization. Discusses the various programmes being developed by the United States involving weapons in outer space.
<http://www.fas.org/spp/eprint/space9811.htm>
- Smith, Bob, 1999, The Challenge of Space Power, *Airpower Journal*, vol. 13, no. 1 (spring), pp. 34–35. Argues that the United States must develop weapons and capabilities in order to protect its future security and prosperity and to achieve true military dominance.
<http://www.airpower.maxwell.af.mil/airchronicles/apj/apj99/spr99/smith.html>
- Spacy, William L., 1999, *Does the United States Need Space-Based Weapons?*, Maxwell Air Force Base. Argues that the benefits of placing weapons in space are questionable.
http://www.au.af.mil/au/database/projects/ay1999/cadre/spacy_wl.pdf
- Spencer, Jeffery D. and James Cashin, 1998, *Space and Air Force: Rhetoric or Reality?*, Air Command and Staff College. Criticizes the Air Force for failing to take the appropriate steps in order to develop a full-fledged Space and Air Force.
<http://www.fas.org/spp/eprint/99-023.htm>
- Streland, Arnold and Edward Greer, 1999, *Clausewitz on Space: Developing Military Space Theory Through a Comparative Analysis*, Air Command and Staff College. Argues for a common vision for American armed forces concerning space.
<http://www.fas.org/spp/eprint/99-206.htm>
- United States, 2000, *Joint Vision 2020*
<http://www.dtic.mil/jv2020/jvpub2.htm>
 Presents the future of America's armed forces, including the concept of full spectrum dominance.
- United States, Air Force Space Command, *Strategic Master Plan FY04 and Beyond*. Presents the Air Force Space Command vision and outlines an implementation strategy.
<http://www.spacecom.af.mil/hqafspc/library/AFSPCPAOffice/Final%2004%20SMP—Signed!.pdf>
- United States, Department of Defense
<http://www.defenselink.mil>
 Provides detailed information on military news, research, and reports on space initiatives.
- United States, Department of Defense, Missile Defense Agency
<http://www.acq.osd.mil/bmdo/bmdolink/html/bmdolink.html>
 Contains information concerning the development, testing and preparations for deployment of a missile defense system.
- United States, National Science and Technology Council, 1996, *Fact Sheet: National Space Policy*. Outlines American space policy, including commercial and security issues.
<http://www.fas.org/spp/military/docops/national/nstc-8.htm>
- Watts, Barry D., 2001, *The Military Use of Space: A Diagnostic Assessment*, Center for Strategic and Budgetary Assessments. Summarizes report urging caution regarding comparisons between space power and air power.
http://www.csbaonline.org/4Publications/Archive/H.20010111.The_Military_Use_o/H.20010111.The_Military_Use_o.htm
- Wright, David and Laura Grego, 2002, Anti-Satellite Capabilities of Planned US Missile Defence Systems, *Disarmament Diplomacy*, no. 68, December 2002 - January 2003. Considers the ASAT capabilities of three missile defence systems the Bush Administration is planning for early deployment.
<http://www.acronym.org.uk/dd/dd68/68op02.htm>

Emerging threats and technologies

- Papadopoulos, Dennis, 2002, *Satellite Threat Due to High Altitude Nuclear Detonations*, presentation to Congressional Staff, sponsored by the Center for Nonproliferation Studies at the Monterey Institute of International Studies, 24 July. Technical presentation detailing the effects of nuclear detonations at high altitudes.
<http://www.eisenhowerinstitute.org/programs/globalpartnerships/fos/newfrontier/Papadopoulos-presentation.pdf>
- Possel, William F., 1998, *Lasers and Missile Defense: New Concepts for Space-based and Ground-based Laser Weapons*, Maxwell Air Force Base, Center for Strategy and Technology. Evaluates the risks and potential of several different types of space- and ground-based laser weapons.
<http://www.au.af.mil/au/awc/awcgate/cst/occp03.htm>
- Primack, Joel, 2002, Pelted by paint, downed by debris, *Bulletin of the Atomic Scientists*, vol. 58, no. 5 (September/October), pp. 24–25, 71. Asserts that missile defenses will put valuable satellites at even greater risk.
<http://www.thebulletin.org/issues/2002/so02/so02primack.html>
- Wilson, Tom, 1998, *Threats to U.S. space capabilities*, paper prepared for the Commission to Assess United States National Security Space Management and Organization (Space Commission). Outlines current threats and suggests countermeasures.
<http://www.fas.org/spp/eprint/article05.html>

Reference sites

- The Acronym Institute for Disarmament Diplomacy <http://www.acronym.org.uk/space/index.htm>
Page devoted space without weapons, contains links to relevant proposals, articles and statements.
- Bulletin of the Atomic Scientists <http://www.thebulletin.org>
Contains numerous articles on space weaponization, policy, programmes and proposals.
- Center for Defense Information <http://www.cdi.org>
Conducts research on the social, economic, environmental, political and military components of global security; offers resources on space security and missile defence.
- Global Network against Weapons and Nuclear Power in Space <http://www.globenet.free-online.co.uk/index.htm>
Contains large resource section on space weapons.
- GlobalSecurity.org <http://www.globalsecurity.org>
Offers detailed information on space systems, facilities and agencies.
- Institute for Cooperation in Space <http://www.peaceinspace.com/index.shtml>
Supports the Space Preservation Act; contains interesting table of comparing the provisions of both existing and proposed space treaties.
- Space Policy Institute <http://www.gwu.edu/~spi/>
Conducts research on space policy issues; publications available online.
- Space Policy Project of the Federation of American Scientists <http://www.fas.org/spp/index.html>
Offers comprehensive collection of both military and civil space resources, analysis, documents and links, as well as technical information of specific weapons (click on Special Weapons Monitor, then Programs).

Stop Star Wars Org

<http://www.stopstarwars.org>

Campaigns against BMD programmes and space-based weapons. Includes a number of links to other anti-star wars organizations and briefing documents.

Weaponization of Space Project of the Stimson Center

<http://www.stimson.org/wos/?SN=WS20020110219>

Presents an electronic library containing relevant government, non-governmental and treaties concerning space.