CHINESE ANTI-SATELLITE WEAPONS: NEW POWER GEOMETRY – NEW LEGAL POLICY?

Stefan A. Kaiser, Heinsberg, Germany*

0. ABSTRACT

With the successful test on 11 January 2007, China has become the third player on the field of Anti-Satellite (ASAT) weapons. National policies of space faring nations commit to the principle of peaceful uses of outer space as enshrined in the Outer Space Treaty, but there is no detailed internationally binding regulation on ASAT weapons. Since 1981 the United Nations General Assembly (UNGA) passed annual resolutions on the Prevention of an Arms Race in Outer Space (PAROS). The PAROS resolutions call for negotiations in the Conference of Disarmament for establishing an internationally binding instrument about space weapons. However, the Conference of Disarmament is deadlocked. China's weapons test has changed the power geometry. This paper examines the policy impact of the Chinese test, especially on the U.S.

1. THE TEST

On 11 January 2007 China became the third nation to successfully test an Anti-Satellite (ASAT) weapon launched by a ground-based ballistic missile. As first reported by Craig Covault in Aviation Week and Space Technology[1], the ASAT system was launched from Xichang Space Center and destroyed the de-commissioned Chinese Feng Yun 1C (FY-1C) polar orbit weather satellite at an altitude of about 530 miles (850 km). The test created one of the largest clouds of space debris with 525 large fragments in the region of the low earth orbit (LEO), which led to a diversion of the orbit of the International Space Station.[2]

2. THE TECHNOLOGY

For more than two decades, ASAT technology remained the domain of the U.S. and the Russian Federation (formerly the Soviet Union). ASAT weapon systems are ground-based or space-based. The destruction of the target satellite can either be achieved by conventional means (kinetic-kill, conventional explosives, disposing clouds of objects), directed energy (e.g. laser) or nuclear devices (including the use of the resulting electromagnetic pulse).

* LLM (McGill). This paper represents the personal opinion of the author and shall not be attributed to any organization to which he is affiliated.

The Chinese ASAT test in January 2007 involved a ground-based kinetic-kill system. A medium-range ballistic missile was precision guided to the target satellite in a selected direction in order to impact with a large difference in velocity. The space hardware for kinetic energy ASAT weapons is readily available for all states which possess launch capabilities[3]. The other required capabilities of early warning, detection and precision targeting are more complex to achieve.

3. INTERNATIONAL LAW

National policies of space faring nations commit to the principle of peaceful uses of outer space as enshrined in the Outer Space Treaty (OST), but there is no detailed internationally binding regulation on ASAT weapons. Art. IV OST is explicit in prohibiting to place and to station nuclear weapons and weapons of mass destruction in outer space; it is silent on other, conventional weapons in outer space.[4] The key term of "peaceful" purposes and exploration, as used in the preamble and Art. IX OST, was introduced during the Cold War, at the height of the space race. This term was intended to maintain the political and military status quo of the U.S. and the Soviet Union in outer space. As a principle legal concept, it is good diplomatic practice of all space fairing states to frequently re-emphasise compliance with said principle. Today "peaceful purposes" are generally interpreted as "non-aggressive" purposes[5]. This means, except for nuclear weapons and weapons of mass destruction, no specific weapon technology is legally banned in space as long as the underlying purpose is non-aggressive. The UN General Assembly has therefore repeatedly reaffirmed "that the legal regime applicable to outer space does not in and of itself guarantee the prevention of an arms race in outer space, that the regime plays a significant role in the prevention of the arms race in that environment, that there is a need to consolidate and reinforce and enhance its effectiveness and that it is important to comply strictly with existing agreements, both bilateral and multilateral."[6]

4. THE MAKING OF INTERNATIONAL SPACE LAW

4.1. International Agreement

In an ideal world, the international community sits together and finds agreements on all open issues to the satisfaction of all parties. In a less than ideal world, during the cold war, the UN Committee on the Peaceful Use of Outer Space (COPUOS) facilitated the agreement of the existing five space treaties. At that time, the international consensus on these treaties was not so much the effect of an international common goal. The only two space powers needed to maintain a status quo in space – no one could afford to lose. The other states, mere spectators of the space race, desired to get at least a foot in the door. After the moon race, the main drivers for this consensus weakened. COPUOS drafted another five sets of space principles, which were finally adopted as UN General Assembly Resolutions. Thereafter COPUOS became a lame duck.

4.2. Non-Agreement and Unilateral Action?

Non-agreement in COPUOS may be co-incidental, only a result of the enlarged number of members, who are not able to find consensus. But non-agreement can also be a strategy of those, who are in a

position to act unilaterally and who can establish facts in outer space before agreement can be reached. This non-agreement strategy can be even more compelling in the light of customary law. If unilateral action is not protested[7], it may involve into customary law.[8]

4.3. National Policy and Law Instead of International Agreement?

In the last decade, the non-agreement of new international space treaties was over-shadowed by numerous new national space legislations. Those national laws concentrate on the authorization and supervision of private space activities. The international anchoring point of these space legislations is Art. VI OST, whereunder the states are responsible for space activities of their nationals. It must be acknowledged that States need to legislate their national licensing rules of private and commercial space ventures. But national space legislations cannot substitute international rulemaking. This is the case, when national regulation goes beyond the frame of Art. VI OST, and especially if it contradicts the rules and spirit of existing international (space) law.

5. THE PROLOGUE AT THE UNITED NATIONS

Since 1981 the United Nations General Assembly (UNGA) passed annual resolutions on the Prevention of an Arms Race in Outer Space (PAROS).[9] The resolutions call "upon all States, in particular those with major space capabilities, to contribute actively to the objective of the peaceful use of outer space and of the prevention of an arms race in outer space and to refrain from actions contrary to that objective and to the relevant existing treaties in the interest of maintaining international peace and security and promoting international cooperation."[10] The earlier resolutions were even more specific on ASAT weapons, when they requested "the Committee on Disarmament to consider as a matter of priority the question of negotiating an effective and verifiable agreement to prohibit anti-satellite systems."[11] Furthermore the resolutions reiterate "that the Conference on Disarmament, as the sole multilateral disarmament negotiation forum, has the primary role in the negotiation of a multilateral agreement or agreements, as appropriate, on the prevention of an arms race in outer space in all its aspects."[12]

For many years the PAROS resolutions were adopted unanimously in the UN General Assembly with only a few abstentions. Since 1995 the U.S. abstained. In 2005, the U.S. opposed the PAROS resolution for the first time[13]. Since 1998 the UN Conference of Disarmament, the supreme international forum for disarmament including the prevention of an arms race in outer space (PAROS), is deadlocked as a result of a dispute about agenda priorities.[14]

6. THE CHINESE POLICY

With the ASAT test in January 2007, China changed tactics. The PAROS advocate became an ASAT activist. Only in 2002, China together with Russia and other states, had submitted to the Conference of Disarmament a joint working paper with elements of a future international agreement, which intended to prohibit the placing, installation and stationing of weapons in outer space and on celestial bodies and to prohibit the

resorting to the use of threat or use of force against space objects.[15]

The test has changed the power geometry. But China's policy goal of this ASAT test is not yet fully clear. This is even more amplified by the fact that after the detection of the test and publication in Western media, it took China almost two weeks to acknowledge that it had undertaken the test. Chinese Foreign Ministry spokesman Liu Jianchao finally acknowledged the ASAT test on 23 January 2007 that it was not directed at any country: "China has always advocated the peaceful use of space, opposes the weaponization of space and an arms race in space. China has never participated and will never participate in any arms race in outer space."[16]

6.1. Pride and Reputation?

First of all, the test can be interpreted as a sign of national pride, a demonstration of capabilities to underline China's status as a political, military and space power. Following two manned space flights, the ASAT test complements the international image of China as a military space power in relation to the entire international community.

6.2 Means of Deterrent?

Vis á vis the nations operating reconnaissance satellites, such as the U.S., Japan, Russia, Israel and in Europe, the test constitutes a distinct policy marker, as to prevent satellite reconnaissance activities. For China, preventing foreign reconnaissance and early warning is also a means to maintain its nuclear deterrent. The ASAT test demonstrated China's military strength in space, despite the softening by the official statement of the Chinese Foreign Ministry. From the perspective of the affected states, there is a confusing friction between Chinese action and policy.

6.3. Lack of Internal Co-ordination?

A more trivial explanation would be an internal lack of co-ordination between the involved Chinese organisations responsible for military and space activities and the political policy makers, especially foreign affairs. A co-ordination glitch could be an understandable reason why China confirmed the test only two weeks later. However, the Chinese ASAT test in January 2007 was not an isolated activity. Apparently, China conducted earlier (unsuccessful) kinetic kill ASAT tests and in August 2006 it "illuminated" a U.S. reconnaissance satellite by a laser which did not harm.[17]

6.4. Raising the Diplomatic Pressure Level?

A final, more elaborate, reason would be a well co-ordinated effort between the various Chinese organisations in an attempt to force other States, especially the U.S., to negotiate an international agreement on the prohibition or limitation of space weapons including ASATs. In this case, China would on purpose have produced facts in order to overcome the deadlock of the UN Conference of Disarmament relating to the prevention of an arms race in outer space (PAROS). For that reason the Chines ASAT test was also considered a "policy weapon".[18] A Chinese policy approach of raising the pressure level would also be supported by the fact that China does not rely on space based intelligence, communication and navigation as much as the U.S. If the LEO region is substantially contaminated by debris stemming from ASAT tests, the

detrimental effects on the U.S. are more severe than on China.

7. THE U.S. POLICY

Chinese policy can hardly be understood without the international context, especially development of the U.S. position. The U.S. with its strong dependence on space assets for maintaining its security and defence is the most vulnerable state in case of attacks against space infrastructure. Not surprisingly it has adopted policies which are considered to manifest not freedom of space, but space dominance. The updated U.S. National Space Policy of 31 August 2006 contains the guideline to "Develop capabilities, plans and options to ensure freedom of action in space, and, if directed, deny such freedom of action to adversaries."[19]

Denial of freedom of adversaries is a clear deviation from the traditional liberalist approach the U.S. has taken for many years. The concept of "denial of freedom of action to adversaries" is very broad. To the extent, active denial encompasses aggressive action, this concept is not consistent with the "non-aggressive" notion of the "peaceful purposes" enshrined in the OST.[20]

The U.S. National Space Policy even puts restrictions on future international agreements relating to outer space, when it states that "proposed arms control agreements or restrictions must not impair the rights of the United States to conduct research, development, testing, and operations or other activities in space for U.S. national interests."[21]

Other policy options, like the "Preservation of Space Act", which intended to work "toward a world agreement banning space based weapons and the use of weapons to destroy or damage objects in space that are in orbit" did not succeed in the House of Representatives.[22]

8. THE FALLOUT

Most space faring nations immediately raised formal concern and protest about the Chinese ASAT test. This is not surprising and fully in line with the positions the vast majority of states have taken in relation to the UNGA Resolutions on PAROS.

After the Chinese test, official and semi-official statements surfaced in the U.S., which sympathized with concepts of preventing militarization in outer space or called for arms controls. The State Department, through their deputy spokesperson Tom Casey, remarked "U.S. policy is that all countries should have a right to peaceful access to space. ... We certainly are concerned by any effort, by any nation, that would be geared toward developing weapons or other military activities in space ... We don't want to see a situation where there is a militarization of space."[23] Likewise, Joe Biden, Chairman of the Foreign Relations Committee, warned against an arms race in space.[24] Representative Edward J. Markey (D-MA) went a step further and called again for an agreement banning space and ASAT weapons: "The Chinese anti-satellite test is terrible news for international stability and security. ... American satellites are the soft underbelly of our national security, and it is urgent that President Bush move to guarantee their protection by initiating an international agreement to ban the development, testing, and deployment of

space weapons and anti-satellite systems."[25]

As ASAT weapons are not prohibited, the U.S. needed some rhetoric to criticize China's ASAT test. The National Security Council spokesman Gordon Johndroe avoided mentioning "peaceful purposes" when he stated: "The U.S. believes China's development and testing is inconsistent with the spirit of cooperation that both countries aspire to in the civil space area."[26]

Policy differences have also surfaced within the U.S. military. Different to the strategists at the Pentagon, who consider space "a sanctuary of the U.S. military", Air Force Chief of Staff Gen. T. Moseley stated: "Killing another nation's satellite is an act of war. ... It's no different than sinking a ship or killing an airplane". Air Force Space Command does not go beyond "defensive counter-space" and does currently not develop kinetic-kill anti-satellite weapons.[27] One of the practical reasons for the U.S. to turn away from kinetic-kill ASAT weapons is to avoid space debris. This does not preclude the U.S. development of technology to deny an adversary access to space, for example by jamming flight communications or by laser.[28]

After the Chinese ASAT test, the White House did not react. Officially the U.S. did not undertake kinetic-kill ASAT tests since the 1980s. However, the U.S. is currently conducting test flights for their Aegis Ballistic Missile Defense Program, which intercepts ballistic targets at altitudes of 100 miles (160 km).[29] At this altitude it also reaches into the lower spheres of low earth satellite orbits. There seem to be no international protests.

Nothing changed at the UN Conference on Disarmament in February 2007. China together with Russia clashed with the U.S. about the U.S. refusal to agree to a ban of space weapons. The U.S. criticism about the Chinese ASAT test and the resulting generation of space debris was new[30].

9. CONCLUSIONS

With the test, China became an ASAT actor. Yet China continues to advocate an international arms control agreement for outer space. The Chinese test was another blow to the concept of "peaceful purposes". It was inconsistent with the spirit of PAROS. The large volume of new space debris has not only military implications, but causes problems also for civilian space activities.

A new wave of support for space arms control surfaced in the U.S., but the National Space Policy stands. In the U.S. the dilemma can be felt that non-agreement, unilateral action and national policy is not any longer a viable strategy for issues of armament in outer space and especially ASAT weapons, since China possess the same ASAT capabilities. By the deadlock in the UN Conference on Disarmament, a multilateral treaty banning armament in outer space is prevented. As a consequence, China's ASAT test is legal. If the U.S. intends to preserve its freedom of action in space through non-agreement, it must accept that others take the same freedom.

The purpose of law is to make actions of others foreseeable. National policy cannot replace international law. Non-agreement in the international arena may work for actors, who can set the facts by unilateral

action. If new players join, the game is not foreseeable any longer. New customary law cannot emerge, if principle players undertake unilateral acts contrary to the opinion juris they are supporting at the international level and at diplomatic conferences. The Chinese ASAT test of January 2007 was detrimental to maintaining international peace and security and promoting international cooperation. The space power geometry has changed, the official national and international policies have not.

---

[1] Craig Covault, Chinese Test Anti-Satellite Weapon, AW&ST 17 January 2007.

[2] RIA Novosti, No danger to ISS from Chinese satellite debris, 02 February 2007.

[3] Definitely China, EU, India, Israel, Japan, Russia, Ukraine, U.S.

[4] Art. IV OST also prohibits military fortifications and testing of other weapons on the moon and other celestial bodies – which is not of relevance for ASAT weapons and this paper.

[5] Space Security 2006, SPACESECURITY.ORG p. 46

[6] UNGA RES A/RES/61/58 (Prevention of an arms race in outer space) 6 Dec 2006.

[7] Provided an opinio juris develops.

[8] For example the over-flight of the first satellites in low earth orbit found customary acceptance without formally negotiated consensus.

[9] Starting with UNGA RES A/RES/36/97, part C, 9 Dec 1981, the latest being UNGA RES A/RES/61/58 (Prevention of an arms race in outer space) 6 Dec 2006.

[10] E.g. No. 4. of UNGA RES A/RES/61/58, 6 Dec 2006.

[11] E.g. No. 4. of UNGA RES A/RES/36/97, part C, 9 Dec 1981.

[12] E.g. No. 5. of UNGA RES A/RES/61/58, 6 Dec 2006.

[13] Space Security 2006, SPACESECURITY.ORG p. 56

[14] Space Security 2006, SPACESECURITY.ORG p. 57

[15] Possible Elements for a Future International Legal Agreement on the Prevention of Deployment of Weapons in Outer Space, UN CD/1679, 28 June 2002.

[16] Reuters AFP on 23 January 2007, cited after Radio Free Europe, www.rferl.org.

[17] Craig Covault, Space Control, AW&ST 22 January 2007.

[18] Craig Covault, Chinese Test Anti-Satellite Weapon, AW&ST 17 January 2007.

[19] US National Space Policy of 31 August 2006, reprinted in ZLW 2007 page 49, sections 2. (Principles), 5. (National Security Space Guidelines).

[20] For more considerations about the consistency of the U.S. National Space Policy with international law, see George Robinson, The U.S. National Space Policy: Pushing the Limits of Space Treaties? ZLW 2007, 45.

[21] US National Space Policy of 31 August 2006, section 2. (Principles).

[22] Four almost identical bills:
Preservation of Space Act 2001, H.R. 107-2977,
Preservation of Space Act 2002, H.R. 107-2977,
Preservation of Space Act 2003 H.R. 108-3657,
Preservation of Space Act 2005 H.R. 109-2420.

[23] USINFO (Vince Crawley), Bureau of Information Programs, US Department of State 19 January 2007.

[24] Boston Globe, 22 January 2007.

[25] Office of Rep. Edward J. Markey (D-MA) 18 January 2007.

[26] USINFO (Vince Crawley), Bureau of Information Programs, US Department of State 19 January 2007.

[27] See David Fulghum, Amy Butler, Reassessing Space, AW&ST 30 April 2007.

[28] David Fulghum, Amy Butler, Reassessing Space, AW&ST 30 April 2007.

[29] Navy Newsstand, Navy Ships Key to Missile Test Success, story number NNS070625-10, 25 June 2007.

[30] China, Russia clash with US over space weapon treaty, Voice of America, 13 Feb. 2007