

# **THE LEADERSHIP COMPETITION BETWEEN JAPAN AND CHINA IN THE EAST ASIAN CONTEXT**

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## **Abstract**

Japan and China, two advanced spacefaring nations, are often referred as rivals in space. Successful manned space program in 2003 and ASAT test in 2007 by China were considered as turning points that led Japan to compete against China, and which potentially introduced the idea of a “space race in Asia.” This paper analyzes the objectives, norms and logics of space policy in Japan and China, and discusses the differences between them over what to do in space, and explores the differences of approach. However, Japan and China are also competing for leadership and influence over the region. APRSAF and APSCO, two similar regional space organizations, are the vehicles of this competition. The result of the

competition is positive for Asian countries, because it provides them with access to space technology as public goods throughout the region.

## Introduction

In Asia, it is often said that there is a space race between Japan and China.<sup>1</sup> Each of the two countries launched satellites for exploring the Moon in 2007, and the similarity of the functions and nature of these two probes gave impression that they saw themselves as competing against one another to be the leading space country in Asia. Similarly, because of the success of the Chinese manned space program, it seems to many that they have ambition to beat the United States, Europe and Russia, and establish superior position in the world's space community.

Many also believe that the competition of Moon probes may extend to a much wider competition among these Asian countries, perhaps even a military one, as it did in the time of the Cold War. In short, some fear that space power has shifted to the East, and that the competition among Asian countries may result in much higher tension and friction among them.

However, this perspective is very much influenced by the Cold War imagery, and I suggest that it may be misleading to employ the Cold War analogy. It is not always true that those who pursue significant objectives in space are also pursuing a hegemonic position in the world. Three countries have their own reasons and logics for sending Moon probes, which need not be associated with the ambition for being hegemonic power.<sup>2</sup> I believe that we have to be open to other possible explanations, which we will examine in this chapter.

## Japan

### 1. Origins of Japanese Space Policy

Since the beginning of its activities in space, Japan has avoided engaging in any security-related uses of space, due largely to the fact that Japan's

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<sup>1</sup> James Clay Moltz, *Asia's Space Race: National Motivations, Regional Rivalries, and International Risks*, Columbia University Press, 2011.

<sup>2</sup> Kazuto Suzuki, "Is There a Space Race in Asia? Different Perceptions of Space" in N.S. Sisodia and S. Kalyanaraman (eds.), *The Future of War and Peace in Asia*, Magnum Books Pvt. Ltd., 2010, pp.181-200.

Constitution is explicitly pacifist. In addition, in 1969 the Japanese Diet adopted a resolution called "Space Development for Exclusively Peaceful Purposes," which prevents the Japanese defense authority from investing in, owning, or operating space systems. All Japanese space programs therefore exclude any military element, and are conducted exclusively under civilian authority in the name of research and development for new technology.<sup>3</sup>

Although the term "exclusively peaceful purposes" is not unique, as it also appears in the Treaty of Outer Space, or ESA Convention, the interpretation of this clause in Japan is quite unique. During the deliberations in 1969, Diet members argued that this clause should be interpreted similarly to the case of peaceful use of atomic energy. In the Japanese mind, both atomic energy and space are dual-use technologies, that is, technologies that can be used for both civil and military purposes. Also, the newly established Science and Technology Agency (STA) was in charge of both technologies, so Diet members had no doubt that space should be restricted as rigidly as atomic energy. Since Japan has suffered from the trauma of nuclear holocaust in Hiroshima and Nagasaki, there remains strong skepticism about the peaceful use of nuclear technology, and therefore, the Diet made it explicit that the technology should only be used civilian purposes, which means that the defense authority should not be administratively, financially or politically involved in the development and operation of nuclear technology programs. This interpretation relating to "exclusively peaceful purposes" was directly transplanted to space with the same intent.

## 2. Shocks in Post-Cold War Period

For a long time, particularly during the Cold War, the "non-military" nature of space did not present any problems for Japanese leaders. The US-Japan alliance provided the necessary infrastructure for intelligence gathering and telecommunication from space, and Japan's pacifist Constitution prohibited Japanese Self-Defence Force (SDF) from being deployed beyond its own borders.

However, the perception of Japanese people on security matters has been dramatically changed by two events. First, the imminent threat of

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<sup>3</sup> Sawako Maeda, "Transformation of Japanese Space Policy: From the 'Peaceful Use of space' to 'the Basic Law on Space,'" *The Asia-Pacific Journal*, Vol. 44-1-09, November 2, 2009.

North Korea became evident when the Taepodong was launched over Japanese territory in 1998, which has caused a big change in the policy paradigm. This incident put the Japanese public as well as the policy community in a panic mode, and there was a strong demand to protect the homeland and prevent North Korea from launching missiles towards Japan. Thus, immediately after the Taepodong launch, the government made the decision to initiate a new satellite program called Information Gathering Satellite (IGS).

The launch of IGS faced serious constraints due to the existing legal interpretation of the 1969 Diet resolution. Although it was clear that the purpose of IGS was to monitor military activities of possible threats such as North Korea, it was presented as a "crisis-management" (note: it was even difficult to mention "dual-use" because it implies the possibility of the participation of JDA) satellite, which would also serve civilian needs in order to comply with the 1969 Resolution. To comply with the provisions of the Resolution, the Section of Intelligence Gathering in the Cabinet Secretariat was designated as the operator of IGS rather than the JDA. This situation led to a wide-ranging understanding among politicians that the legal constraints of the "exclusively peaceful purpose" resolution was too strict to have room to adapt to a new situation, as under the changing security environment in the post-Cold War period, it seemed nonsensical to maintain such a rigid pacifist rule in the face of an imminent threat.<sup>4</sup>

The second major event that has strongly influenced Japanese thinking about its own security was the Japanese Cabinet decision to participate in the Missile Defence (MD) program in 2003, which raised another difficult question for the Japanese space and security community. The issue was understood this way: On the one hand, because of the "exclusively peaceful purpose" resolution, the JDA and SDF would not be able to develop, launch and operate its own early warning or tracking satellite, which gathers crucial information about missile launch from any adversary or potential adversary. Without its own early warning satellite, the JDA would therefore be obliged to depend on the early warning information from the United States. However, if the JDA entirely depends on the US intelligence for initiating the deployment of MD counter-attack missiles, it would touch upon the sensitive issue of "collective defense."

The Japanese government has been taking a unique interpretation of its Constitution Article 9, which is that Japan holds the right of collective defense, but it would not exercise it. The Constitution does not allow the

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<sup>4</sup> Tsuyoshi Sunohara, *Tanjo Kokusan Spai Eisei (The Birth of National Spy Satellite)*, Nikkei publishers, 2005.

Japanese government to possess military forces for offensive purposes but only for self-defense. Therefore, the Japan-US alliance is based on the understanding that the alliance was actually based on the unilateral exercise of collective defense by the United States, that is, the United States has obligation to support Japan militarily when Japan is under military attack, but Japan cannot do the same because of the unique interpretation of collective defense. So Missile Defense is set and ready for operation, but it would not be able to launch a counter-attack missile unless the command comes from Japan's own early warning satellite, because if a Japanese counter-attack missile is launched by the US command, it would be considered an exercise of collective defense. Currently, the Japanese MD system is designed to launch its counter-attack missile on Japanese command based on intelligence gathered by radars at sea (Aegis fleet) and on the ground, while US satellite early warning signals are used as "reference." Thus, many people in the Liberal Democratic Party (LDP), particularly those who are interested in defense issues, strongly demanded that the government reconsider the "exclusively peaceful purpose" clause of the Diet resolution in 1969.

### 3. Basic Law for Space Activities

Politicians of the ruling LDP launched a study group on legal and political issues of Japanese space activities in 2005, and identified the problems of space policy driven by a bureaucracy. The report was issued in 2006 and urged LDP to propose new legislation concerning regulation of space activities by creating a ministerial post with a portfolio of space, establishing a new government forum for space user ministries, and changing the interpretation of the 1969 Diet resolution. This report was accepted by the politicians not only within LDP but also its coalition partner, Komeito, and largest opposition party, Democratic Party of Japan (DPJ). These three parties submitted a draft bill of Basic Law for Space Activities, and it passed the Diet in May 2008.<sup>5</sup>

The Basic Law defines the direction of a new space policy and a new decision-making structure. First, it will set up a new Minister for Space and Space Development Strategy Headquarters (an intergovernmental coordination body with strong authority). The Minister for Space would be a "specially designated" minister who will not be in charge of the

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<sup>5</sup> Kazuto Suzuki, "Transforming Japan's Space Policy-making", *Space Policy*, Volume 23, Issue 2, 2007, pp.73-80.

management of the ministry, who resides in the Cabinet Office for coordinating policies of different ministries. The Headquarters will be composed of all the ministers and some specially appointed members from academia and industry. Although this is an ambitious challenge due to the conservative attitude of the government towards any reform, there are hopes that these new institutions will provide a positive force for more political attention and dynamics in space activities.

The Headquarters is intended to be the final decision-making body for the allocation of budget, which is to occur by bundling all budget requests from various ministries and negotiating with the Ministry of Finance on behalf of those ministries.

Second, the bill states that "Space development of Japan shall follow the Outer Space Treaty and other international agreements, and shall be conducted on the basis of the concept of pacifism in the Constitution," as stated in Articles 1 and 2. This clause of the bill suggests that the traditional interpretation of "exclusively peaceful purpose" as "non-military" would no longer apply. In this regard, the new Basic Law opens up the possibility for the military authority to be involved in development, procurement and operation of space systems.<sup>6</sup>

#### 4. Is Japan going to be a big space power in the next decade?

One of the motivations for LDP politicians for promoting the Basic Law for Space Activities was to strengthen Japan's capability for using space in international affairs because they were very concerned about the development of the Chinese space program. Of course, the members were impressed by the successful manned space program, but their concern was not about the competition in the manned space capability nor in the space race for the Moon. Instead, their attention was on the recent development of Chinese action towards other Asian countries.

In 2005, the Chinese government concluded the signing of the establishing agreement for APSCO (Asia-Pacific Space Cooperation Organization) with 7 member states,<sup>7</sup> based on the AP-MCSTA (Asia-Pacific Multilateral Cooperation in Space Technology and Applications)

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<sup>6</sup> For details, see the Appendix of Saadia M. Pekkanen and Paul Kallender-Umezu, *In Defense of Japan: From the Market to the Military in Space Policy*, Stanford University Press, 2010.

<sup>7</sup> Members are China, Mongolia, Iran, Thailand, Bangladesh, Pakistan, Peru.

with 15 member states.<sup>8</sup>

AP-MCSTA was an organization for developing small satellite technology and user-oriented applications. Both AP-MCSTA and APSCO were initiated by the Chinese government, and they are attracting a lot of attention from developing countries (see the section on China in this paper).

For many years, Japan was the leading country in this region, and JAXA and MEXT were proud to initiate APRSAF (Asia-Pacific Regional Space Agency Forum),<sup>9</sup> which coordinates space programs and enhances the cooperation among the space agencies of various nations in this region. However, this organization focused only on technical aspects of the space programmes of different space agencies, and there was no coordination of strategy or policy. The members are not exclusive, and often, participants expected to gain from what Japan might offer. There was wide dissatisfaction among LDP politicians that Japan was not supporting the needs of developing countries with the transfer of technology and collaborative projects for space hardware.

In response to these demands and fear of losing leadership in the Asian region, JAXA has initiated several projects to go beyond the “talking space.” In 2005 at the APRSAF meeting in Fukuoka, JAXA proposed the Sentinel-Asia program. This was inspired by the EU-ESA-sponsored GMES (Global Monitoring for Environment and Security) program to provide regional imagery and data for environment and disaster management. It uses the Japanese Earth observation satellite “Daichi” (ALOS) and NASA’s MODIS, as well as software that was developed by Digital Asia Research Center, Japanese IT-ventures. In addition, JAXA initiated the SAFE (Space Application For Environment) program to analyze climate change by monitoring water resources, sea level, forest degradation, and agricultural data.

However, these program were not enough to satisfy other Asian partners, as they demanded further technology transfer. Thus, in 2009 JAXA initiated the STAR (Satellite Technology for the Asia-Pacific Region) program, which mimicked APSCO’s SMMS. This program

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<sup>8</sup> Members are China, Mongolia, Malaysia, Iran, Indonesia, Chile, Ukraine, Thailand, South Korea, Bangladesh, the Philippines, Pakistan, Peru, Argentina, and Russia.

<sup>9</sup> Participants are Australia, Brunei, Canada, Sri Lanka, Germany, France, Pakistan, Italy, Japan, Bhutan, Cambodia, Thailand, Laos, Malaysia, Mongolia, Nepal, New Zealand, Bangladesh, China, Chile, India, Indonesia, Kazakhstan, South Korea, Singapore, Philippines, Turkey, Russia, Vietnam, Israel, Ukraine, Myanmar, UK, USA and Taiwan.

includes Malaysia, Thailand, India, South Korea, Indonesia and Vietnam, and is focused on developing small satellites (Micro-STAR and EO-STAR) together with JAXA.

It was a big step for APRSAF to become more of a technology-oriented forum, but the commitment of JAXA for this program seems to be ambivalent. Because of security concerns, JAXA is not free to transfer all necessary technologies for developing small satellites under various legal frameworks on export control and “peaceful use of space.” Although the Basic Law for Space activities allows JAXA to perform intensive international cooperation, other related laws are not sufficient to provide enough room for JAXA to commit to these programs.

To summarize these points, Japanese space policy has changed dramatically in recent years, and it seems that the direction of the policy is going towards “utilization of space” rather than “developing technology.” This objective has been supported by politicians, whose interest is in taking leadership in the Asian region and using space as a “tool” for providing benefits to other countries, especially developing countries, including providing security-related services such as disaster monitoring and confidence building measures. At the same time, politicians are concerned about the cost and benefit of space activities, and it would be difficult to promote “big projects” such as manned-space programs. Thus, it can be said that Japanese space efforts may not be glamorous, but will focus on pragmatic and effective programs to positively influence other countries in the Asian region.

## 5. China

Chinese space activities and its decision-making process are opaque at best. In the decision-making process of military and civilian programs it is not clear which agencies and companies are involved in the program, and when it comes to the military program it is almost impossible to penetrate into the decision-making community at all. Because of this opaqueness, analysis of Chinese space policy involves a lot of guessing and speculation. However, it is possible for us to discern the general trend of the Chinese space program and its normative understanding on how space should be used.<sup>10</sup>

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<sup>10</sup> Perhaps one of the most important work on Chinese space analysis is Gregory Kulacki and Jeffrey G. Lewis, *A Place for One's Mat: China's Space Program, 1956–2003*, American Academy of Arts and Sciences, 2009, which would help us understand the objectives and intentions of Chinese space activities.



### The Sleeping Dragon is Waking Up

The emergence of China as a space power started in 2000 when Chinese State Council issued its first White Paper on Space Activities, the first public statement on what China aims for and has achieved in space. It emphasizes on the one hand utilization of space for peaceful purposes and promotion of the benefit to all mankind, but on the other hand protection of China's national interests and strength, and implementation of its national development strategy.<sup>11</sup>

This dichotomy of global/national ambivalence can be seen in many aspects of the Chinese strategy for space. On the one hand, China National Space Agency (CNSA) and China Aerospace Science and Technology Corporation (CASTC), both established in 1993, are institutionally under the Committee on Science and Technology Industry for National Defence (COSTIND). These two major organizations are strongly influenced by national political climate and strategic objectives, but they are relatively autonomous institutions and insulated from the defense community, and there is little communication and exchange of information between the defense authority and CNSA.

But on the other hand, the China Academy of Sciences (CAS) and various technological institutions are generally autonomous from national political objectives and tend to emphasize the importance of Chinese contribution to humanity.

The most remarkable aspect in this White Paper is the emphasis on application programs. China has not invested extensively in application technology for a long time, but rather the Chinese government sought to acquire application satellites from foreign manufacturers. However, the US export control restrictions, known as ITAR (International Traffic in Arms Regulation), put satellite and space technology as controlled items under the Munitions List. This meant that export of US-made satellites, as well as satellites made with any components and parts produced in the US, needs to be approved by the US Department of State. Because of the competitiveness of the US space technology, it would be almost impossible for non-US manufacturers to avoid using US components and parts, and therefore the ITAR restriction was, in effect, a de facto exclusion of China from the international space market. Thus, it became imperative for the Chinese government to invest in application technology to meet the growing demand for space-based infrastructure and services.

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<sup>11</sup> The Information Office of the State Council, China's Space Activities, a White Paper, November 22, 2000.  
<http://www.spaceref.com/china/china.white.paper.nov.22.2000.html>>

Following the White Paper of 2000, the State Council published a subsequent White Paper in 2006.<sup>12</sup> The objectives and principles of the second are not substantially different, but this paper expresses a stronger conviction that the Chinese space program is on a steady track, particularly noting a series of successes in its manned-space program. Also, the second White Paper emphasizes the civilian and peaceful nature of the Chinese space program, and is thought to be a response to American National Space Policy, which was issued a few months before. The US space policy document included a certain nuance that its space programs aim at protecting US territory and national interest, and states that the US will use its technical superiority to prevent any country from disrupting American space activities. The Chinese response therefore emphasized China's own national interests and intentions.

The third White Paper,<sup>13</sup> which was published in 2011, was not dramatically different from the previous two White Papers, but there was a growing confidence in its space activities. The major focus was on the manned-space flight with particular emphasis on the successful launch of Tiangong-1, the Chinese space station, and docking maneuver with unmanned Shenzhou-8. Also, the third White Paper stressed the success in application satellite programs such as BeiDou/Compass navigation system and various Earth observation and communication satellites. Furthermore, the third White Paper focused on the importance of the space debris issue, which would threaten the safety of manned spacecraft. This is ironic because it was China that increased the amount of space debris by its attempt to exercise Anti-satellite (ASAT) capability in 2007. This White Paper did not reflect on its own action, but emphasized that the Chinese government is monitoring space debris and committed to mitigate it.

## 6. Leadership in Asia and Developing World

The dichotomy between global/national objectives leads the Chinese government to be aware of the need to cooperate with other countries and international organizations, but in fact the Chinese approach to international cooperation seems to be a hegemonic one as well as

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<sup>12</sup> The Information Office of the State Council, China's Space Activities in 2006, October 12, 2006. [http://news.xinhuanet.com/english/2006-10/12/content\\_5193446.htm](http://news.xinhuanet.com/english/2006-10/12/content_5193446.htm)

<sup>13</sup> China's space activities in 2011, December 30, 2011. [http://www.chinadaily.com.cn/cndy/2011-12/30/content\\_14354558.htm](http://www.chinadaily.com.cn/cndy/2011-12/30/content_14354558.htm)

cooperative.

China represents itself as a leader of developing countries, and this self-image gives a certain aspect of hegemonic space policy. For example, the Chinese government has initiated the “Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries”<sup>14</sup> stressing that international space cooperation should be based on equality, mutual benefit, peaceful utilization and common development. This policy suggests that China would provide its technical know-how and space-based services for developing countries, whereas major Western countries are not providing sufficient support. From China’s perspective, developing countries are disadvantaged by their lack of industrial and technological capabilities, and they are not able to participate in the international space community. Thus, China positions itself as a leader of developing countries, helping to improve their technical capabilities and bringing them toward the capability level of the international space community. Malaysia can be seen as one example which benefited from its cooperation with China. Malaysia, as a member of AP-MCSTA and APSCO, has engaged in various programs that China offered for developing countries, and built its capability for space engineering. The most important element for Malaysia with regard to the cooperation with China is to develop manned-space capability because the Malaysian space agency has put high priority on sending Malaysians to space.

This hegemonic approach can also be seen in the Chinese endeavor to establish regional space cooperation organizations. In 1992, China, Pakistan and Thailand signed an MoU for establishing an international organization for space technology and application cooperation. This cooperation created an international space cooperation agency called AP-MCSTA (Asia Pacific Multilateral Cooperation in Space Technology and Applications) and attracted many developing countries in Asia, including South Korea, Iran, Indonesia, Mongolia, and Bangladesh. The objective of AP-MCSTA was to promote multilateral cooperation in space applications, but it was clear that China had the leading expertise, and many

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<sup>14</sup> United Nations General Assembly, Fourth Committee “Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries,” A/51/590, 4 February 1997.

participating states became “students” of China<sup>15</sup>. In fact, teaching and training of human resources were the main objectives of AP-MCSTA.

It offered programs for remote sensing data analysis on environmental studies / protection, natural resource exploitation, as well as in disaster monitoring and prevention, which do contribute to the promotion of capacity building for the Asia-Pacific Region. The organization has held seven international conferences, attended mainly by engineers and scientists along with some policy makers, and has focused on exchanging information and holding workshops for various application programs.

Among those workshops, Cooperation in Small Multi-Mission Satellites (SMMS) was perhaps the largest and most important. SMMS was created by China, Iran, Republic of Korea, Mongolia, Pakistan, Thailand and Bangladesh for developing microsatellites for communications and remote sensing. China had previously been developing smallsat technology from the early 1990s by sending students to the University of Surrey, and several universities played incubator for such technologies brought back by those students. The SMMS project was, as a result, functioning as a technology transfer mechanism from China to other members.<sup>16</sup>

This Chinese leadership through AP-MCSTA has further developed by creating APSCO (Asia Pacific Space Cooperation Organization). In 2005, China, Bangladesh, Indonesia, Iran, Mongolia, Pakistan, Peru and Thailand signed the APSCO Convention, and Turkey joined in 2006.<sup>17</sup> Since the APSCO Convention entered into force only in 2008, it would be difficult to judge this organization based on its achievements. However, it is clear that China is exercising its leadership in this region (interestingly, while excluding Japan), and is creating opportunities for the member states of APSCO to develop their autonomous capabilities, which could then be launched on the Chinese Long March Rocket, which is heavily restricted in the international launch service market due to the American ITAR.

Another aspect of hegemonic approach is the bilateral cooperation with resource-rich countries. China has been collaborating with Brazil on the Earth resources satellite program, and following the successful launch of the China-Brazil Earth Resources Satellite 2 (CBERS-2) in October

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<sup>15</sup> He Qizhi, "Policy and Legal Implications of Asia-Pacific Space Cooperation", in Chia-Jui Cheng (ed.), *The Use of Airspace and Outer space for All Mankind in the 21st Century*, Kluwer Law International, 1995, pp.49-56.

<sup>16</sup> See <http://www.apsco.int/SMMS.aspx>

<sup>17</sup> But Indonesia and Turkey have not yet ratified the Convention, thus the members of APSCO are limited to 7 countries.

2003, the Chinese and Brazilian governments signed supplementary protocols on the joint research and manufacturing of follow-on satellites, and on cooperation in a data application system, maintaining the continuity of data of CBERS and expanding the application of such satellites' data region-wide and worldwide. Obviously, this project aimed to penetrate Brazilian resource research, particularly the rich possibilities for offshore oil.<sup>18</sup>

In addition, China signed a commercial contract for a communications satellite with Nigeria, providing in-orbit delivery service in 2004, and subsequently with Venezuela, providing in-orbit delivery service and associated ground application facilities in 2005. These were commercial contracts, but they imply several important issues. First, China uses space technology as a bargaining chip for securing resource supply. There is a growing number of developing countries which need satellite communication capability for improving their national infrastructure, and China, promoting its self-image as the leader among developing countries, took advantage of its superior capabilities in space technology and offered its space system, including launch services, at a very low price. (It was said that the contract for developing, launching and operating satellites altogether costs only USD 250 million, which is considered to be about half a price of major satellite developing countries can offer.) Second, these contracts suggest that Chinese industrial capability has reached the level of the international commercial market. The increasing reliability of Chinese technology, together with the success of its manned-space program, enhanced the confidence of the Chinese space community that they could enter into the commercial market. Third, the contracting partners are not the allies of the United States or Western countries. Both Nigeria and Venezuela are, to some extent, anti-American countries, or countries where Western governments have difficulty penetrating due to their Human Rights records. Some may cast doubt that China is forming an "Anti-American Coalition," but it seems that China is trying to avoid penetrating countries where there are strong ties with the West, while satisfying its own needs for access to additional resources.

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<sup>18</sup> Yun Zhao, "The 2002 Space Cooperation Protocol between China and Brazil: An Excellent Example of South-South Cooperation", *Space Policy*, Volume 21, Issue 3, August 2005, pp.213-219.

## 7. Shooting Down Satellites

Finally, we cannot avoid discussing the Chinese experiment at shooting down its own satellite in 2007. This action has little to do with space-based services, but this incident tells us much about how China regards space, and how the Chinese decision-making system works.

First of all, the Chinese decision to shoot down its aging weather satellite, FY-1, was taken by the military authorities without much consultation with the space community or the diplomatic corps, which explains why there were mixed messages from different Chinese authorities. The Ministry of Foreign Affairs, the “window for outside world,” was not able to confirm or deny the fact that China took out its own satellite for some time following the act. The Ministry stressed that this was an act of peaceful use of space, since the action was not infringing with any international commitment. The reaction indicates that the Ministry of Foreign Affairs was not informed, and its policy explanation was not well prepared.

Second, the reason and rationale for the military to exercise its capability for shooting down the satellite was apparently a response to the US National Space Policy of 2006. From China’s perspective, the US policy can be seen as a clear statement of the intent to maintain space dominance. Since China had already been excluded from the international launch market, it was natural for China to understand that the new US policy would be an extension of its intent to deny China entry into the international space community. Thus, Chinese military authorities considered that demonstration of its capability to shoot down the satellite would force the US to reconsider its position vis-à-vis Chinese space activities.

Third, the Chinese space community, in contrast to its military authority, was well aware of the negative impact of satellite destruction in orbit, and the subsequent spread of space debris. Since China is increasingly dependent on its space-based infrastructure and services, the civilian community clearly recognized that the creation of more debris would undermine the effectiveness of China’s own space systems.

This is the reason why Chinese government has fiercely promoted the protection of the space environment and the prohibition of damaging space objects. In fact, China has actively participated in activities organized by the Inter-Agency Space Debris Coordination Committee, started the Space Debris Action Plan, and strengthened international exchanges and cooperation in the field of space debris research. It also proposed together

with Russia, establishing a guideline for protection of space environment in 2007. China also strongly promotes prohibition of “weaponization” of space in PAROS (Prevention of an Arms Race in Outer Space) under CD (Conference on Disarmament). It seems contradictory for China to demand such international regulations, but it is understandable if we take into account that the civilian and military space communities in China at times lack coordination.<sup>19</sup> In any case, as the United States is strongly opposed to setting up a legal framework to restrict American activity in space, it would therefore be difficult to foresee any progress in this domain.<sup>20</sup>

## 8. Conclusion: It's not a Space Race, but Competition of Leadership

As discussed above, it should be considered misleading to suppose that there is a competition between Japan and China for improving their respective military capabilities in space. It is true that Japan has launched Information Gathering Satellites (IGS), and China is developing a lot of application technologies which might be useful for military space systems, but as we have seen, their space policies did not originate due to military demands. The space community, as well as public perception, has not been not associated with defense community from the beginning.

Also we have to be aware that space is only a tool for military activities. By treaty it is prohibited to place weapons of mass destruction in the orbit, and most countries have agreed to avoid the “weaponization” of space. China itself is the sponsor of the treaty to ban space weaponization in PAROS. While many countries use space for collecting military intelligence, communicating with troops, and sending positioning signals for missile navigation, it is typically the military forces on the ground that engage in military actions.

Also, we note that the ASAT test in 2007 made every nation, including China, even more aware of the danger of a space battle. The destruction of additional satellites would inevitably create larger amounts of debris, which would affect not only an enemy, but also their own satellites. Whatever the reason for shooting down a satellite might be, the

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<sup>19</sup> Bruce W. MacDonald, China, Space Weapons, and U.S. Security, Council on Foreign Relations, Council Special Report (CSR) No.38, 2008.

<sup>20</sup> Theresa Hitchens, “The United Nations and Its Efforts to Develop Treaties, Conventions, or Guidelines to Address Key Space Issues Including the De-weaponization of Space and Orbital Debris,” in Joseph N. Pelton and Ram S. Jakhu (eds.), *Space Safety Regulations and Standards*, Elsevier, 2010.

consequence of the action would be enormous and unfavorable to any spacefaring nations.

After all, any space activities are determined by the fairest laws, the Laws of Physics, which do not discriminate between civilian and military spacecraft, enemy and friend, or good and bad intentions. Based on this understanding, it is implausible that the Chinese ASAT would invoke overt military competition in space.

However, it is true that there is competition between Japan and China for regional leadership. The rivalry between APRSAF and APSCO is stimulating both Japan and China to use these organizations as vehicles for exercising their leadership. The unintended consequence of this leadership is the enhancement or empowerment of other Asian countries, as they are the beneficiaries of space-based services and technology transfer. Countries which have high ambitions for developing space capabilities now have easier access to high technology and possible international cooperation with experienced partners, and thus it can be said that this rivalry shall not be regarded as a space race, but as a healthy competition for providing public goods for the region.

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