

# Chinese Concerns About U.S. Missile Defense

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China perceives the U.S. pursuit of missile defense as a long-term strategic threat. As Chinese defense planners have become more familiar with existing missile defense technology and its limitations, Chinese assessments of the threat it poses in the near term are less alarming. Nevertheless, Chinese leaders continue to view U.S. investments in missile defense, particularly those that involve cooperation with nations on China's periphery, as a cause for concern.

## A History of Concern

Open source Chinese publications show that Chinese defense analysts were following developments in U.S. missile defense technology as early as the mid-1970s (Kulacki 2009). From the beginning, Chinese analysts saw missile defense as one part of a broader technological competition in military space technology. At the time, these analysts were concerned about the possibility of a military space race between the United States and the Soviet Union that would leave China, which had yet to even test an ICBM, far behind. This concern informed and motivated China's diplomatic effort to negotiate a binding international agreement to prevent an arms race in outer space.

Chinese concerns about advancements in military space technology, including missile defense, increased dramatically after the Reagan administration announced the Strategic Defense Initiative (SDI) in March 1983. The SDI program focused on using advanced space technology for intercepting ballistic missiles. Although China and the United States enjoyed positive relations at the time and were cooperating in efforts to contain the Soviet military threat to both nations, Chinese defense analysts still saw SDI as part of a long-term strategic threat to China.

The opening sentence of a working paper China submitted to the United Nations Conference on Disarmament in March 1985 reflected this connection between missile defense and military space technology:

*“With the intensification of the development of anti-satellite weapons and anti-ballistic missile weapons, the question of preventing an arms race in outer space is becoming ever more urgent.”*

The Chinese working paper contains language that expressed Chinese anxieties about the future of all military space technology, not just anti-satellite weapons and missile defense weapons:

*“In principal, ‘the non-militarization of outer space’ requires both space weapons with actual lethal or destructive power and military satellites of all types be limited or prohibited.”<sup>1</sup>*

At the time China's space capabilities lagged far behind those of the United States and the Soviet Union. It launched its first communication satellite in 1984, a year before issuing the working paper at the United Nations. China's diplomatic efforts to impose limits on the military application of space technology reflected concerns that China was not prepared to compete in an accelerating national competition in space technology, especially in light of the Reagan administration's stated intention to dramatically increase U.S. spending in this area.

But diplomacy was not China's only option. A group of four Chinese defense scientists, citing Reagan's commitment to SDI, petitioned the senior Chinese political leadership for new Chinese investments in space technology:

*“Concerning the reactions and policies adopted by the other nations of the world motivated by America’s Strategic Defense Initiative (aka ‘Star Wars’ Plan), we hold that our country also should adopt appropriate policies, so we put forth this ‘Recommendation on Following & Researching Foreign Strategic High Technology Development.’”* (Fan 2005 p. 263)

Two days after receiving the letter Senior leader Deng Xiaoping instructed Premier Zhao Ziyang to organize groups of experts to develop detailed policy options for the senior leadership. But it took three years of intense internal debate before the Chinese government eventually approved a comprehensive set of new investments in a broad range of advanced technologies, including space technology.

The objective of these investments was to “follow international developments, decrease the gap between China and more advanced nations, and look for advantages where China could make a breakthrough” (Fan 2005, p. 266). They were not initiated to pursue any specific technology or capability, such as missile defense, but to make sure China was doing what was necessary, in a broad range of areas, to keep pace with technological advances in the rest of the world.

## **An Evolving Position**

China’s concern about the acceleration of advances in military space technology, along with China’s growing involvement in international arms control discussions, corresponded with apprehension about the pace of development in its nuclear weapons program. In 1984 China’s nuclear weapons labs also requested a sizable increase in funding in order to complete efforts to develop a new generation of smaller nuclear warheads before international negotiations to implement a nuclear test ban matured to a point that would make it difficult for China to continue testing (Song 1999). The Chinese leadership approved the request from the labs, and simultaneously began efforts to increase China’s organizational and technical capacity to engage in international arms control negotiations.

During the 1990s China began to link its concerns about a space arms race to nuclear arms control. The U.S. missile defense program was perceived in China as a broad effort to advance U.S. space technology, similar to the Apollo program. China believed the military technologies that could emerge from this “star wars” program might include improvements to U.S. satellites, radar and other technical intelligence-gathering assets that could greatly improve U.S. efforts to identify the location of missiles, track their movements and observe their testing. This would pose an inherent threat to the survivability of China’s nuclear forces. China intentionally limits the size of its nuclear arsenal, keeps it on a comparatively low level of alert with the warheads separated from the missiles, and pledges China will only launch its nuclear weapons after suffering a first strike from a nuclear-armed adversary (Kulacki 2011). A coordinated U.S. effort to find, track and eventually intercept nuclear-armed missiles had the potential to erode China’s confidence in its ability to assure retaliation from a nuclear first strike.

Chinese arms control and security analysts discuss two possible Chinese responses to the evolving challenge of missile defense: altering China’s commitment to no-first-use and enlarging the size of China’s arsenal. Chinese discussion of changes to no-first-use is confined to a few analysts who interpret the U.S. pursuit of missile defense not as a means of self-defense, but as an attempt to strengthen the credibility of U.S. nuclear threats, which China should be entitled to respond to in kind (Chan 2013). The Chinese government, however, consistently responds to foreign suggestions that it might abandon no first use with unambiguous statements of support for the policy (Kulacki 2013). China is, however, increasing the number and diversifying the type of its delivery vehicles. China refuses to publicly disclose or to discuss caps on the size of its nuclear forces but outside observers suggest the number of available delivery vehicles is increasing, albeit slowly, and from a very small base (Kristensen 2013).

Moreover, concerns about missile defense and advances in related military space technology led China to link negotiations on a fissile material cutoff treaty to an agreement on preventing an arms race in outer

space. Chinese President Jiang Zemin introduced the linkage in his address to the UN Conference on Disarmament in 1999, shortly after the Clinton administration announced it would continue to fund U.S. missile defense research and development. China is believed to possess only a limited supply of the fissile material used to manufacture nuclear warheads (Zhang 2011). President Jiang's statement suggests China was reluctant, at that time, to engage in discussions about a permanent fissile material cutoff without knowing whether developments in missile defense might eventually require a significant expansion of China's nuclear forces that could require the production of additional fissile material.

### **Changing Circumstances**

China's initial concerns about falling behind in a multi-nation competition over military space technology emerged in the absence of practical experience operating its own space systems. Later concerns about the impact of space and missile defense technologies on the survivability of China's nuclear arsenal emerged during a period when international efforts to reduce the number and restrict the development of nuclear weapons were gaining momentum and China felt obligated to demonstrate a willingness to participate in international arms control negotiations.

Neither of those two conditions holds today.

During the last two decades China gained considerable experience operating its own space systems. Today China owns and operates approximately 115 satellites and that number is steadily increasing (UCS 2014). China continues to pursue a robust human spaceflight program that is on target to construct a permanently occupied space station by the early 2020s. An increasingly large and diversified aerospace industry staffed by hundreds of thousands of trained personnel supports these efforts. Chinese fears of falling behind are beginning to give way to an increased confidence in China's ability to keep pace with international advances in space science and engineering.

At the same time international efforts to promote further nuclear disarmament are stalled. Negotiations

at the UN Conference on Disarmament remain deadlocked nearly two decades after concluding negotiations on the Comprehensive Test Ban Treaty, which still has yet to come into force. U.S.-Russian efforts to negotiate deep reductions in their nuclear arsenals are making little progress despite the expectations created by President Obama's address in Prague and the ratification of the New START treaty. Initial U.S. promises to re-engage international efforts to impose a binding fissile material cutoff treaty are being replaced with much less ambitious voluntary national efforts to secure nuclear materials from non-state actors. And both the United States and Russia appear poised to spend considerable funds upgrading their nuclear weapons infrastructures and delivery systems.

As a result, China feels no diplomatic pressure to prepare for participation in multilateral or international discussions about the size, composition, or posture of its much smaller nuclear arsenal.

China does remain concerned about the credibility of its ability to retaliate after a nuclear attack. In the post-Cold War era, Chinese leaders believe a nuclear first strike is highly unlikely. But they also believe a credible ability to retaliate from a nuclear attack is important to the conduct and outcome of conventional conflicts with the United States. Chinese analysts claim the United States has repeatedly used nuclear threats to "blackmail" other nations into forgoing conventional military actions. They see the U.S. pursuit of missile defense as a means of bolstering the credibility of those threats. From China's point of view, U.S. leaders who believe missile defense provides protection against nuclear retaliation—or who believe China is intimidated by even the possibility that missile defense provides such protection—are more likely to threaten to use nuclear weapons against China in the course of a conventional conflict.

### **Shifting Focus**

Over the last several decades China dramatically expanded its arsenal of conventionally armed missiles. The Second Artillery, which was originally created to operate China's nuclear-armed missiles, also operates

this increasingly large conventional missile force. The utility and effectiveness of China's conventional missiles, and their relationship with Chinese nuclear strategy, is an emerging focus of Chinese concerns about the possibility and consequences of military conflict, especially with the United States. Missile defense is presumably a consideration, but its effect on Chinese thinking about the relationship of its conventional and nuclear missile forces is difficult to discern.

In a classified 2003 text on the Second Artillery operations, conventional missiles are treated in a manner similar to nuclear missiles, as strategic rather than tactical weapons (Yu 2004).<sup>2</sup> The General Command Department of China's People's Liberation Army, which authored and published the text, emphasizes the important political and psychological effects of all missile attacks. It repeatedly instructs the officers who operate China's conventional missiles on the need for China's political leadership to maintain absolute control over their use, which can only be authorized by the "supreme military command" and not by the Second Artillery's "operational commanders."

This extraordinary level of control over China's conventionally armed missiles is deemed necessary because:

*"Second Artillery conventional missile attack operations will take place under conditions of nuclear threat. Even though future wars will primarily be conventional regional wars, there are major nuclear powers in the world that have never committed not to use nuclear weapons first, and which have, moreover, threatened to use nuclear weapons in several recent regional wars."* (Yu 2004, p. 59)

Chinese strategists imagine future scenarios in which China might engage in some forms of conventional military activity without the risk of starting a nuclear war. But they also seem to recognize there is a risk of escalation if those activities include conventional missile strikes.

Somewhat surprisingly, missile defense does not appear to be a significant consideration in Chinese thinking about the use of China's conventional missile forces under these conditions. There appears to be no

concern that the missile defense systems the United States is currently deploying in Asia might affect the actual use of conventional missiles in a regional conflict. During an off-the-record discussion in Beijing several years ago, a technically trained Chinese expert on hit-to-kill technology who runs a related research and development facility in one of China's leading defense labs said, "The United States can deploy as many PAC-3<sup>3</sup> missiles in Asia as it wants without causing serious concern in China." Missile defense is barely mentioned in the 2003 text discussing Second Artillery operations.

This lack of Chinese concern about the impact of U.S. missile defense on the use of its conventional missiles might reflect Chinese technical assessments of the performance of the defenses, the capabilities of Chinese missiles or the effectiveness of Chinese countermeasures. It could also reflect a belief that the sheer numbers of Chinese missiles could overwhelm any imaginable missile defense system. Whatever the reason, Chinese analysts do not seem overly concerned that attempts to use conventional missiles in conflict scenarios involving the United States will be rendered ineffective by missile defenses.

There is, however, a very pronounced concern about being able to protect China's conventional missile forces from a possible preemptive strike, either against the missiles themselves or against their command and control systems. The radars the United States is deploying in the region, including those that support missile defense, are a significant concern for Chinese military planners, as are the satellites the United States can use to identify, track and strike potential Chinese targets. Wu Riqiang, a technically trained Chinese security analyst from People's University, argues the U.S. radars in the region associated with its missile defense program, when used to observe Chinese missile testing programs, could provide U.S. observers with useful information on the capabilities of Chinese missiles and missile defense countermeasures (Wu 2013). When discussing U.S. reports of a Chinese Anti-Ship Ballistic Missile, Wu hypothesized that China might be reluctant to test the missile because of the possibility of unnecessarily exposing information about the missile.

In sum, when assessing Chinese concerns about the effect of U.S. missile defense on its conventional missiles, there seems to be a greater concern about the ancillary intelligence gathering and surveillance activities of the United States during peacetime than there is about the ability of the defenses to intercept a Chinese missile fired during an actual conflict.

## Maturing Concerns

In a series of interviews on Chinese perspectives on U.S. missile defense conducted in the spring of 2014, all of the Chinese respondents indicated China was taking a “wait and see” approach to current U.S. plans. Although the United States claims these plans are targeted at North Korea, Chinese observers, in keeping with past practice, remain concerned that U.S. investments in missile defense, and its cooperation on missile defense with other nations on China’s periphery, could pose a potential long term challenge to China’s national security.

At the same time, China is beginning to experiment with its own missile defense technology. China tested the same interceptor employed in the January 2007 destruction of one of its own satellites in a missile defense mode in 2010 and again in 2013. Although both tests were declared successful, the interviews conducted for this paper confirm that Chinese experimentation with missile defense technology is leading to a greater awareness of its limitations. This awareness, especially because it is a product of China’s own research, development and testing, is reducing Chinese anxieties about the threat missile defense might present to Chinese missile forces, both nuclear and conventional.

However, Chinese arms control analysts still see the continued U.S. pursuit of missile defense, and its unwillingness to engage in any substantive discussion of limitations on the development of this technology, as an assault on the foundation of international efforts to move towards nuclear disarmament. In the words of one of China’s most influential arms control experts:

*“Historically, limitations on the development of strategic missile defense systems were a cornerstone of nuclear arms control. The development of strategic missile defense not only easily facilitates nuclear arms racing; it poisons relations between the nuclear nations, destroys strategic stability and makes deep nuclear reductions difficult to realize (Sun 2010, p. 18).”*

Chinese analysts interpreted the U.S. decision to withdraw from the 1972 Anti-Ballistic Missile ABM Treaty, which had imposed limits on missile defenses for an unlimited duration, as an indication that the United States was no longer serious about nuclear disarmament. Since building up offensive forces is a clear way to overwhelm defenses, limiting defenses has long been recognized as an important element of limiting the number of offensive forces. The Obama administration’s commitment to U.S. plans for missile defense reconfirmed Chinese perceptions—prevalent since the Clinton administration—that there was a bipartisan consensus within the United States government in favor of continuing to pursue missile defense technology, despite its negative implications for nuclear disarmament.

## Concluding Remarks

China is making large investments and significant progress in advanced military technology, especially in missile, space, and related areas, including anti-satellite weapons and missile defense. Nevertheless, Chinese analysts think they lag behind the United States, which they believe continues to make even larger investments, and more rapid progress, in developing these same technologies.

China’s national defense policy, particularly its investments in advanced military technology like missile defense, is driven by long-standing Chinese anxieties about falling behind in a technological competition with more powerful nations. These anxieties have played an outsized role in shaping Chinese thinking about technology and national defense since

China's defeat in the Opium War of 1840. In the absence of substantive discussions with the United States and other nations about negotiating verifiable limits on missile defense and related technologies, China will continue to keep a close watch on U.S. advances and to invest in the research and development of similar, though not necessarily identical, capabilities. Chinese defense planners may not intend to deploy such systems. The primary purpose of their research and development efforts is to provide China with a detailed understanding of the technology and its potential capabilities and implications.

As long as this technological back and forth between China and the United States continues, progress in missile defense will continue to cause Chinese defense planners to consider expanding the size of China's small nuclear arsenal and may lend credibility to the arguments of those advocating such increases during Chinese internal debates. Because China associates strategic missile defense with nuclear arms racing, continued U.S. investment in strategic missile defense undermines Chinese interest in entering discussions with the United States and other nuclear weapons states on deeper nuclear reductions. It also erodes Chinese confidence in the U.S. commitment to the Nuclear Non-Proliferation Treaty (NPT), which obliges all nuclear weapons states to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."

Most importantly, the U.S. focus on missile defense and technologies that could target Chinese missiles suggests, to many Chinese analysts, that U.S. leaders still hope to deny China a nuclear retaliatory capability in order to exert nuclear coercion. This sows distrust and resentment that undermines bilateral dialog on reducing the threat of nuclear war.

#### [ENDNOTES]

<sup>1</sup> In a subsequent paragraph in its 1985 working paper China notes "*At the present stage, in view of their complexities, the limitation and prohibition of military satellites may be left to be considered and resolved at an appropriate time in the future.*" China did not, however, raise the issue of restrictions on the non-destructive military use of satellites its later submissions to the UNCD on the prevention of an arms race in outer space (PAROS).

<sup>2</sup> In the United States, "strategic" typically refers to nuclear-armed long-range missiles. For the PLA "strategic" serves as a synonym for "critical"—something essential to the eventual outcome of a conflict.

<sup>3</sup> A U.S.- built air-to-surface missile used for missile defense that is currently deployed in Japan.

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