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Thinking About Space Deterrence and China

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U.S. space systems are the backbone of the U.S. economy and national security. Chinese counter-space weapon developments promise to make the satellite protection mission ever more challenging. There are significant challenges to deterring China from aggressive behavior in space, and for this reason U.S. policy makers and defense strategists must start planning now for a possible future military confrontation involving China that also may involve military space operations.

Deterrence

Successful deterrence strategies are, to the extent possible, tailored to the unique characteristics of diverse adversaries and political circumstances.¹ By merely threatening to attack U.S. space systems unprotected by a strong deterrent or defenses, a country might be able to deter, or significantly alter, the U.S. involvement in the region or even its willingness to enter a conflict. When it comes to a possible conflict involving China, space cannot be considered a sanctuary from war.²

For U.S. space deterrence to be as effective as possible, a space aggressor must perceive and fear that unacceptable costs will be imposed following an attack and that he will not adequately achieve expected goals by aggressive action in space. This means having actual and known retaliatory capabilities that may be employed in space or on earth. Deterrence assumes that the United States will be able to recognize that an attack has occurred, when it occurred, and



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by whom. For the strongest possible deterrence, the adversary should have a good understanding that its own highly valued assets would be at risk as a consequence of attacking the United States, be they in space, on land, or at sea.

China-Deterrence, Warfighting, and Counter-Space Capabilities

Beijing has invested significantly in expanding its military capabilities, including its anti-satellite (ASAT) capabilities, to support an aggressive active defense strategy. Chinese military leaders believe that deceiving the enemy and being unpredictable can enhance deterrence and have operational advantages when deterrence fails. China's military strategy involves the use of coercive tactics short of armed conflict in order to advance China's interests.³ A brief war in space, in other words, may be viewed as a way of preventing a larger, more violent and bloody contest with the United States.

Though not nearly as advanced as the United States, China's space capabilities are evolving and expanding to aid military modernization and drive economic and technological advances, all of which would allow China to challenge U.S. information superiority. Although China publicly states its belief in the peaceful uses of space, this should not disguise the fact that China's behavior and past statements support the idea that space is a warfighting domain. China is developing and has demonstrated a wide range of counter-space technologies and is believed to be very close to having operational systems.⁴

U.S. Counter-Counter-Space: Policy and Capabilities

China believes America's dependence on space is its Achilles Heel.⁵ In order to go into a crisis with the strongest possible position against the United States, China's leaders believe the best approach to deter U.S. intervention may require counter-space actions.⁶ The risk a space attack would pose to national security would depend on the type of satellite interfered with and the redundancy in the space system network under attack. It is imperative that U.S. leaders understand U.S. vulnerabilities in space and act swiftly to correct any security imbalance. Losing space will have implications for warfighting effectiveness in the land, sea, and air domains.⁷

Over the last few years the United States has taken steps to improve the resiliency of its space systems by adopting passive defenses such as disaggregation, distribution, diversification, protection, proliferation, and deception. The United States is not able to respond militarily with agility to destructive space threats, at least not within the space environment, and it is not where it needs to be to have a truly responsive space reconstitution capability. Space deterrence depends on the sum of all U.S. military capabilities, because the United States will never simply fight a "space war." Rather, it will fight a war that may escalate to involve the space domain. Today U.S. space control capabilities are very limited or at least not very public.⁸



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This is particularly true with the U.S. ability to incapacitate foreign satellites. Yet one does not need to be able to execute strikes in space in order to hold an adversary's space assets at risk. There are non-kinetic counter-space means available, such a cyber-attack, as well as operationally available military land-, sea, and air forces to strike at space assets on the ground. Space situational awareness is critical to defensive and offensive counter-space operations and is essential to space deterrence strategy.

A Framework for Thinking about Deterrence - The North Korean Crisis (2021)

There are situation-specific challenges to forming and implementing a space deterrence strategy, and it is important to understand what may be required to deter China from engaging in hostile actions against U.S. and allied space systems. A hypothetical U.S.-North Korean crisis circa 2021 can help inform thinking about how one might deter China from attacking U.S. space systems.⁹ A successful deterrence strategy depends greatly on specificity, obtaining as much precision as possible in the information about the targeted opponent and the context within which the United States intends to engage the opponent. To achieve that understanding, one must ask a series of questions.

What is the Strategic Context? In a hypothetical 2021 scenario, the United States views the North Korean regime as unstable and one posing the greatest near-term risk to its security. China views North Korea as a "buffer state" against U.S. forces in the Republic of Korea and is highly distrustful of the U.S. and South Korean alliance. North Korea's missile launches have set up a confrontation between the United States and North Korea and between the United States and China.

What are the Strategic and Deterrence Objectives? U.S. leaders view the stakes for the United States to be very significant - it does not want to see its role, power, and credibility as a guarantor of security in the Indo-Pacific region undermined. China has made it clear that it will not stand by as the United States changes the North Korean regime or the political arrangements on the Peninsula, especially if changes involve reunification under South Korean control. China is prepared to implement an anti-access/area denial strategy to limit U.S. military influence in the Asia-Pacific region, to include use of ASAT forces.

What are the National and Leadership Characteristics Applicable to the Functioning of Deterrence? National and leadership characteristics can vary from country to country, impact decision-making, and reflect fears and cultural proclivities that must be factored into the deterrence and counter-deterrence calculations of U.S. leaders. A number of factors here must be considered. How rational and predictable is the Chinese leadership? What can we say about their leadership determination and motivations and their attitudes towards the use of force? What political and psychological factors may be involved? What is China's understanding of the United States? What military options are available to Chinese leaders? What is China's



belief about the costs the United States could incur if the U.S. deterrence threats are executed? And which leaders should the United States engage?

Considering U.S. Space Deterrence Options

An understanding of Chinese military actions and signaling behavior is necessary to determine, to the extent feasible, the purpose behind apparently aggressive action. Chinese strategists believe that China must display the use of force or show its determination to use force to compel the enemy to submit or refrain from taking hostile actions. Chinese viewpoints should be the basis for forming a sound U.S. space deterrence strategy against China. For U.S. space deterrence strategy to work, Beijing must care greatly about the threat the United States poses and believe that Washington would be willing to execute it. The challenge for U.S. defense planners is to understand why China's leaders might believe they are free to interfere with U.S. space systems and then design and execute a deterrence strategy to change Beijing's calculations.

Understanding the effects of attacks on space assets is critical to determining whether responses in different domains are proportionate or escalatory. Cross-domain combat operations are already built into U.S. military thinking and planning, and this will be no different if it involves space. U.S. deterrence threats aimed at protecting U.S. space assets should include holding at risk targets of comparable value in space and in other domains.

The credibility of U.S. threats is a key component of a successful deterrence strategy. Public declarations supported by actions help build credibility *regardless of domain*. Clear statements by U.S. officials of how Washington would respond to Chinese counter-space actions would help bolster the credibility of U.S. deterrence. Deployed defenses and interoperability demonstrations with regional allies also can bolster the credibility of the U.S. threat to respond to North Korean provocations.

There are special challenges associated with a space deterrence strategy. These questions must be answered: Who did what and how quickly can we know it? What are the retaliatory threat options most effective for deterrence, recognizing that a response may be issued in a domain other than space? And how quickly can the response be executed? It is important to take into account the type of weapon used, the type of target, and the situation on earth at the time.

It appears that a prudent strategy would consider both deterrence threats to prevent *non-destructive or reversible* counter-space operations by China and possible deterrence threats to prevent permanent or massive counter-space operations. The job of a space deterrence strategist must be to determine what China values and how to hold it at risk in a fashion deemed credible by the adversary. The threat should be based on specific and meaningful military objectives and appear credible to the opponent. Specific and appropriate military actions threatened in anticipation of an attack could help build credibility in the threat and help



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convince Chinese leaders that their plan of action ought not to be viewed as a *fait accompli*. Chinese leaders must be made to understand that the significant U.S. stake in space is not a vehicle for Chinese coercion of the United States, but rather a factor that will drive the United States to take appropriate actions to protect its interests there.

1. Office of the Secretary of Defense, Nuclear Posture Review, February 2018, p. 26.
2. Cheryl Pellerin, "Hyten: Deterrence in Space Means No War Will be Fought There," *DoD News*, January 26, 2017, available at <https://www.defense.gov/News/Article/Article/1061833/hyten-deterrence-in-space-means-no-war-will-be-fought-there/>.
3. See for example Brian Weeden and Victoria Samson, *Global Counterspace Capabilities: An Open Source Assessment*, April 2018, pp. 20, 21, available at https://swfound.org/media/206118/swf_global_counterspace_april2018.pdf.
4. Daniel R. Coats, Director for National Intelligence, Statement for the Record, *Worldwide Threat Assessment of the US Intelligence Community*, February 13, 2018, available at <https://www.dni.gov/index.php/newsroom/congressional-testimonies/item/1845-statement-for-the-record-worldwide-threat-assessment-of-the-us-intelligence-community>; See also Defense Intelligence Agency (DIA), *Challenges to Security in Space*, (Washington DC: DIA, February 2019), p. 14 available at http://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/Space_Threat_V14_020119_sm.pdf -- According to this DIA assessment, China is making advances in space technology and is likely to turn to space early on in any major military conflict to cripple its adversaries. See also Joseph Menn, "China-based campaign breached satellite, defense companies - Symantec," *Reuters*, June 19, 2018, available at <https://www.reuters.com/article/china-usa-cyber/china-based-campaign-breached-satellite-defense-companies-symantec-idUSL1N1TL1K1>.
5. Air Force Space Command Public Affairs, "Hyten announces Space Enterprise Vision," *AF.mil*, April 13, 2016, available at <http://www.af.mil/News/ArticleDisplay/tabid/223/Article/719941/hyten-announces-space-enterprise-vision.aspx>.
6. Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2018*, p. 39.
7. National Aeronautics and Space Administration (NASA) Administrator Jim Bridenstine, see Alison Snyder and Andrew Freedman, "NASA Administrator throws support behind Trump's 'Space Force,'" *Axios.com*, June 27, 2018, available at <https://www.axios.com/nasa-administrator-supports-trumps-space-force-7a4bba61-6184-4503-b2c3-07d158f2dbd9.html>; Lt. General Vincent R. Stewart, "Worldwide Threat Assessment Armed Services Committee," (Washington, D.C.: Defense Intelligence Agency, February 3, 2015), available at <http://www.dia.mil/News/SpeechesandTestimonies/tabid/7031/Article/13225/worldwide-threat-assessment.aspx>.



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8 General Hyten believes that the United States has very effective space capabilities, but that they are very old and not built for a contested environment. Bill Gertz, “China Carries Out Flight Test of Anti-Satellite Missile.”

9 For a deeper analysis of this hypothetical scenario, see Steve Lambakis, *A Guide to Thinking about Space Deterrence and China*, (Fairfax, VA: National Institute Press, 2019).

This Information Series draws from Steve Lambakis, *A Guide to Thinking about Space Deterrence and China*, (Fairfax, VA: National Institute Press, 2019). The views in this Information Series are those of the author and should not be construed as official U.S. Government policy, the official policy of the National Institute for Public Policy or any of its sponsors. For additional information about this publication or other publications by the National Institute Press, contact: Editor, National Institute Press, 9302 Lee Highway, Suite 750 | Fairfax, VA 22031 | (703) 293-9181 | www.nipp.org. For access to previous issues of the National Institute Press Information Series, please visit <http://www.nipp.org/national-institute-press/information-series/>.

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