

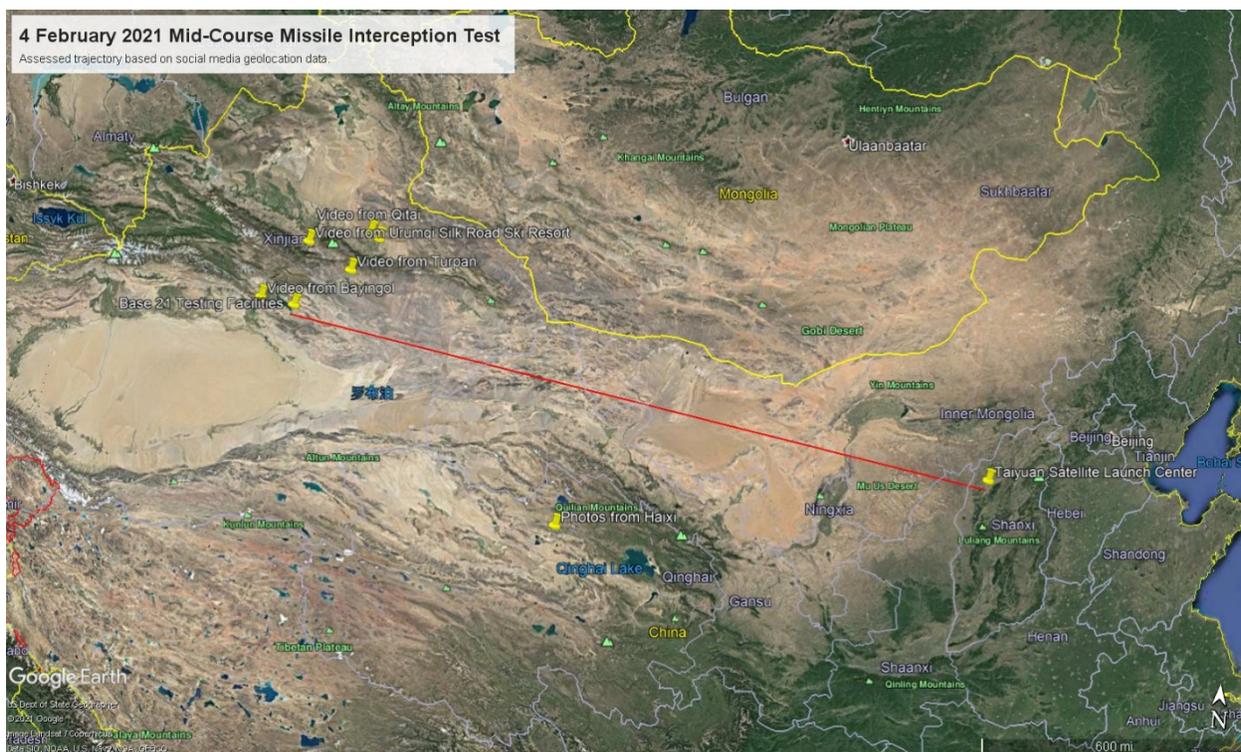


C H I N A   A E R O S P A C E  
S T U D I E S   I N S T I T U T E

## China's Recent Ballistic Missile Defense Test May Have Actually Been an Anti-Satellite Test

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China's Ministry of National Defense (MND) publicly announced that People's Republic of China (PRC) executed a "land-based mid-course missile intercept technology test (路基中段反导拦截技术试验) on 4 February 2021.<sup>1</sup> An evaluation of Chinese social media posts containing video footage and photos of the event further suggest that the test occurred between 2000 and 2100 China Standard Time (CST).



Videos and photos posted on PRC social media outlets suggest that the PRC launched the target vehicle from the People's Liberation Army's (PLA) Taiyuan Satellite Launch Center, which is subordinate to the Space Systems Department of the PLA Strategic Support Force (PLASSF), sometime between 2000 and 2010 CST.<sup>2</sup> A larger body of media posted on social media indicates that the interceptor launched from somewhere in Xinjiang by 2030 CST. The geolocations of five separate videos taken of the interceptor launch suggest that the PLA launched the interceptor from Base 21 in Hoxud County.

## Not Just Ballistic Missile Defense

Although the PRC MND identified this event as a “mid-course missile interception test”, it may instead have been an anti-satellite (ASAT) test. This would not be the first time the PLA disguised an ASAT test as a ballistic missile defense (BMD) test; the U.S. State Department issued a statement suggesting that a PLA missile test in July 2014 was in fact an ASAT test.<sup>3</sup> Subsequent studies on the PRC's BMD program also strongly suggest that the PLA might use a BMD program as a cover for ASAT programs given the poor press associated with ASAT tests.<sup>4</sup> However, the PLA itself has made it clear that it views mid-course BMD and ASAT as similar capabilities.



*Figure 1: A possible early PLA mid-course interceptor fitted to a modified DF-11 transporter erector launcher.*

The PLA views kinetic ASAT and mid-course BMD operations under the singular umbrella of “space operations” rather than two discrete mission types. The only mission distinction between the two is that mid-course BMD is a “space defense” mission while kinetic

ASAT is a “space control” mission.<sup>5</sup> Furthermore, the PLA places the greatest amount of emphasis on the ability to establish space superiority through non-kinetic and kinetic strikes against adversary satellites and space vehicles.<sup>6</sup> The ability to destroy ballistic missiles in space appears to be a secondary requirement at best.

### Strategic Support Force Involvement

There is also circumstantial evidence that suggests the SSF Space Systems Department is responsible for developing mid-course interceptors. The PLA SSF is tasked with overseeing the PLA’s strategic space, cyber, electronic, and psychological warfare missions.<sup>7</sup> Given this mission set, the SSF’s involvement in developing mid-course interceptors suggests a space-centric mission for systems.

Multiple press and academic outlets identify personnel assigned to the PLA’s 63620 Unit as conducting research and development of mid-course interceptors as recently as 2016.<sup>8 9</sup> This strongly suggests that 63620 Unit is one of the primary entities tasked with developing mid-course interceptors to include the most recent test. 63620 Unit, previously operated under Base 20 (Jiuquan Satellite Launch Center/JSLC) of the former General Armaments Department (now Equipment Development Department). It has likely been transferred to the PLASSF in its entirety along with JSLC in 2016.<sup>10</sup>



Figure 2: 63620 Unit researcher Chen Deming during a 2016 interview discussing "mid-course anti-missile testing". 63620 Unit now falls under the Strategic Support Force.

## A Consideration for U.S. Space Superiority

The U.S. Space Command recently identified five critical tasks needed to ensure continued space superiority and first on the list is to “understand the competition” However, an obfuscated ASAT program capability inherently makes it difficult for the U.S. to understand competition with China in space. Even if the PLA’s mid-course interceptor program is exclusively intended for BMD, evidence suggesting a possible ASAT role is enough to warrant considering this capability under the “space competition” umbrella.

Unfortunately, this obfuscation is not unique among PLA space programs. Whenever possible, China and the PLASSF attempts to mask the military intent behind virtually all its space programs through civilian covers, false intent, or pure denial of information. It is incumbent upon the U.S. Space Command and Space Force to develop a deep understanding of its counterparts in the PLASSF as a way of detecting such obfuscation.

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## ENDNOTES

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<sup>1</sup> Wang Xinjuan, China conducts land-based mid-course missile interception test, Ministry of National Defense, [http://eng.chinamil.com.cn/view/2021-02/05/content\\_9980841.htm](http://eng.chinamil.com.cn/view/2021-02/05/content_9980841.htm), 02/05/2021.

<sup>2</sup> Marcus Clay, Supporting the Infinite Battlefield- A Preliminary Study of the Chinese Strategic Support Force Through 2018 PLA Civilian Personnel Recruitment Dataset, China Aerospace Studies Institute, 2019.

<sup>3</sup> Frank A. Rose, (), Ensuring the Long-Term Sustainability and Security of the Space Environment, U.S. Department of State, <https://web.archive.org/web/20140919132453/http://www.state.gov/t/avc/rls/2014/230611.htm>, 08/13/2014.

<sup>4</sup> Bruce W. MacDonald, Charles D. Ferguson, Understanding the Dragon Shield: Likelihood and Implications of Chinese Strategic Ballistic Missile Defense, Federation of American Scientists, [https://fas.org/wp-content/uploads/2015/09/DragonShieldreport\\_FINAL.pdf](https://fas.org/wp-content/uploads/2015/09/DragonShieldreport_FINAL.pdf), 09/01/2015.

<sup>5</sup> Xiao Tianliang (editor), (肖天亮), "战略学" (Science of Strategy), 国防大学出版社 (National Defense University Publishing House), , 4/1/2015.

<sup>6</sup> Ibid.

<sup>7</sup> Office of the Secretary of Defense, 2020 China Military Power Report, <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>, 9/1/2020.

<sup>8</sup> Chen Deming, (陈德明), "创新的过程循环往复、永不停息" (The Process of Innovation Repeats and Never Stops), 科普中国 (Popular Science China), [http://www.xinhuanet.com/science/2017-08/29/c\\_136565286.htm](http://www.xinhuanet.com/science/2017-08/29/c_136565286.htm), 8/29/2017.

<sup>9</sup> LIU Lijun, TU Guoyong, ZHU Shiyin, LI Xi, (刘利军, 涂国勇, 朱时银, 李曦), "外测数据误差的高精度估计与分离方法" (High Precision Estimation and Separation Method of External Measurement Data Error), 雷达科学与技术 (Radar Science and Technology), [http://radarst.cnjournals.com/ldkxyjs/ch/reader/view\\_abstract.aspx?file\\_no=202006005&flag=1](http://radarst.cnjournals.com/ldkxyjs/ch/reader/view_abstract.aspx?file_no=202006005&flag=1), 06/01/2020.

<sup>10</sup> Marcus Clay, Supporting the Infinite Battlefield, China Aerospace Studies Institute, 2019.