



SEEKING STABILITY IN OUTER SPACE: OPPORTUNITIES FOR CHINA–UK DIALOGUE

NIVEDITA RAJU AND FEI SU*

I. Introduction

Space systems are critical enablers for military and civilian services. Perceived threats to such systems could spark escalatory responses across domains of land, sea, air, space, cyber—and even potentially nuclear. Chinese views on outer space in particular warrant attention, as China is the second-largest user of space after the United States based on the number of satellites in orbit and reliance on space services. China has also demonstrated advanced ‘counterspace’ capabilities to target space systems, including through its 2007 direct-ascent anti-satellite weapon (DA-ASAT) test.¹ The USA claims that since this test was conducted, China has expanded its range of counterspace capabilities to disrupt and degrade US systems.² Amid multiple international armed conflicts and intensifying strategic competition, there are few platforms for constructive exchange with China to maintain stability in outer space.

The United Kingdom, given its own priorities for relations with China, is well positioned to foster common understandings on space security issues separate from more adversarial USA–China relations. UK–China relations have experienced ups and downs, but the current British administration under Prime Minister Keir Starmer has sought to reinvigorate ties and establish a more balanced relationship.³ For instance, the UK’s National Security Strategy 2025 mentions the state’s desire to reduce the risks of misunderstanding and poor communication that have characterised its relationship with China in recent years.⁴ The UK’s perceptions of China in national policies are relatively measured, with the UK Strategic Defence Review referring to China as a ‘sophisticated and persistent challenge’ (by comparison, it labels Russia as ‘an immediate and pressing threat’).⁵ In April 2025, in a significant step, the UK and China held their first meeting of military leaders in China in over a decade, to strengthen military-to-military

¹ See news briefing by Chinese Foreign Ministry spokesperson reported in Le Tian, ‘Outer space experiment “no threat”’, *China Daily*, 24 Jan. 2007.

² US Space Force, ‘Space threat fact sheet’, Sep. 2025.

³ See Starmer, K., Speech at Lady Mayor’s Banquet, London, 1 Dec. 2025.

⁴ British Cabinet Office, ‘National Security Strategy 2025: Security for the British people in a dangerous world’, Policy Paper CP 1338, 29 Aug. 2025, Pillar (ii), para. 27.

⁵ British Ministry of Defence, *Strategic Defence Review—Making Britain Safer: Secure at Home and Abroad* (June 2025), p. 28.

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SUMMARY

● Space systems are critical enablers for military and civilian services. While a number of states are conducting space activities, Chinese views on outer space warrant particular attention given China’s status as the second-largest user of space and its pursuit of space capabilities. As outlined in this paper, the United Kingdom, with its own space interests and capability development, is well positioned to foster common understandings on space security issues with China.

Bilateral China–UK engagement on space could mutually benefit both states by providing bases for de-escalation and risk reduction at a critical time when relations between major powers have severely deteriorated. There are identified commonalities in Chinese and British priorities for space security and strategic stability, as well as certain types of space threats which China and the UK may have a mutual interest in addressing. While each state has differing approaches to governance, underpinned by certain assumptions and varying terminologies, there is scope to build common understandings and even reconcile some differences through bilateral space security dialogue. Ultimately, both China and the UK recognize the strategic significance of the space domain and aim to address developments in space that may upend stability.



communications.⁶ An additional key development is the January 2026 high-level visit by Prime Minister Starmer to meet with President Xi Jinping in Beijing to strengthen bilateral ties.⁷ Bilateral engagement on space security could mutually benefit both states by providing bases for de-escalation and risk reduction at a critical time when relations between major powers have severely deteriorated. To explore initial areas for possible engagement, this research policy paper provides an overview of Chinese and British priorities in space security and strategic stability (section II), then identifies space threats which China and the UK may have a mutual interest in addressing (section III). Section IV examines differing approaches to governance, focusing on certain assumptions and terminologies that underpin their different views, and section V presents potential bases for dialogue between China and the UK focused on outer space.

II. Strategic stability and outer space

While there is no shared interpretation of ‘strategic stability’ among states, analysis of Chinese and British policies suggest they share similar priorities, although neither define the term. China’s 2025 white paper mentions strategic stability in relation to nuclear capabilities as well as developments in cyberspace, outer space and missile defence.⁸ There are two schools of thought among Chinese experts. The first school associates strategic stability with multiple factors where nuclear weapons constitute only one element, while the second school takes a more reductionist view, defining strategic stability as a situation where incentives to launch nuclear attacks or engage in arms races are low.⁹ In addition, the *Science of Military Strategy*, a core textbook for People’s Liberation Army (PLA) officers published by National Defense University, defines strategic deterrence as ‘a kind of military struggle in which the country and the army are forced to concede, compromise or yield to the unbearable consequences by skilfully displaying strength and determination of using force through comprehensive use of powerful military reality to achieve a definite political goal’.¹⁰ In comparison, the UK’s Strategic Defence Review emphasizes nuclear deterrence as the bedrock of its national security strategy, while also highlighting the importance of developments in other domains, including outer space and cyberspace.¹¹

Assessment of Chinese and British nuclear postures shows that both appear to practise varying forms of minimal nuclear deterrence, with similar approaches to lower incentives for nuclear use. This differs from that of the USA and Russia, which have doctrines with potential first use as well as nuclear forces that are air-, land- and sea-based. The UK states that it would consider nuclear use ‘only in extreme circumstances of self-defence, includ-

⁶ Beale, J., ‘UK sends military chief to China for first visit in 10 years’, BBC, 10 Apr. 2025.

⁷ Chinese Ministry of Foreign Affairs, ‘President Xi Jinping Meets with UK Prime Minister Keir Starmer’ 29 Jan. 2026.

⁸ Chinese State Council Information Office, ‘China’s arms control, disarmament, and nonproliferation in the new era’, White paper, Chinese Ministry of Foreign Affairs, Nov. 2025.

⁹ Li B., ‘Chinese perspectives on strategic stability engagement with the United States’, Brookings, 21 July 2025.

¹⁰ Chinese People’s Liberation Army, National Defense University (NDU), ‘Strategic deterrence’, *Science of Military Strategy* (NDU Press: Beijing, 2020).

¹¹ British Ministry of Defence (note 5).



ing the defence of its NATO allies'.¹² British nuclear forces are entirely sea-based, suggesting relatively more restraint than other nuclear-armed states, although the UK has recently raised its ceiling on warheads.¹³ China meanwhile has committed to a 'no first use' policy regarding nuclear weapons, 'at any time and under any circumstances'.¹⁴ Yet, China's rapid expansion of its nuclear arsenal and supporting infrastructure—along with concerns, including from the USA, that China is shifting to a 'launch on warning' posture similar to that of the USA and Russia—has sparked questions about its commitment to the policy.¹⁵

Both China and the UK consider the space domain crucial for strategic stability.¹⁶ Although China recognizes that developments in cyberspace, outer space and artificial intelligence pose new challenges to strategic stability, it does not have dedicated space security policies or strategies. It aims to be an 'all-round' space power, and refers to space for 'international strategic competition', but has no explicit references to weapons or counterspace capabilities.¹⁷ The UK in contrast has elaborated objectives for space security through several national policies. The UK does not directly designate space a warfighting domain (as the USA does in its policy, for instance) but views space as 'a critical infrastructure sector, a site of growing competition, and a domain that is central to warfighting'.¹⁸ The UK also mentions space 'control', interpreted as 'UK freedom of action in space' with intent to invest in counterspace capabilities, and highlights cooperation with North Atlantic Treaty Organization (NATO) allies towards this end.¹⁹ Significantly, NATO's space policy does not use the term 'warfighting', instead referring to space as an 'operational' domain.²⁰

Chinese and British approaches to deterrence involving outer space ('space deterrence') are less clear. It is not feasible to draw direct analogies to the nuclear domain, given the wider spectrum of potential offensive actions and effects in the space domain. Consequently, it is unclear *what* exactly states aim to deter, especially when no public exchange on space deterrence has occurred in multilateral space security forums to date. With varying objectives, assumptions and concepts, there is no baseline understanding of states' priorities for deterrence in space operations. This could be intentional, as states seek strategic ambiguity. However, an absence of articulated objectives for space deterrence from major powers can lead to unclear signalling, which

¹² British Ministry of Defence (note 5), p. 98.

¹³ Kristensen, H. M. and Korda, M., 'World nuclear forces', *SIPRI Yearbook 2025: Arms, Disarmament and International Security* (Oxford University Press: Oxford, 2025), p. 180.

¹⁴ Chinese State Council Information Office, 'China's arms control, disarmament, and nonproliferation in the new era' (note 8).

¹⁵ See e.g. US Department of the Air Force, China Aerospace Studies Institute, 'The evolution of China's nuclear forces', Air University, 13 Oct. 2025.

¹⁶ Chinese State Council Information Office, 'China's arms control, disarmament, and nonproliferation in the new era' (note 8); and British Cabinet Office, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy* (Her Majesty's Stationery Office: London, Mar. 2021), p. 29.

¹⁷ Chinese State Council Information Office, 'China's national defense in the new era', White paper, July 2019, transl. Foreign Languages Press, pp. 1–2.

¹⁸ British Ministry of Defence (note 5), p. 117.

¹⁹ British Ministry of Defence (note 5), p. 117.

²⁰ North Atlantic Treaty Organization (NATO), 'NATO's overarching space policy', 27 June 2019.

in turn may exacerbate misunderstandings and fuel worst-case scenario thinking.

Chinese doctrine is silent on space deterrence. However, active defence (积极防御)—responding to attack—remains the foundation of China's defence strategy, including in outer space, with a focus on maintaining access and control for peaceful use. Experts also note that China possesses capabilities for proactive defence (主动防御), which may involve pre-emptive offensive actions.²¹ In contrast, the British Defence Space Strategy mentions several space deterrence objectives, including to prevent and deter escalation of conflict in space, protect and defend British interests within the space domain, and deter hostile acts.²²

Despite clear differences, Chinese and British priorities for space and strategic stability also demonstrate some commonalities, particularly the need to minimize risks to strategic stability in the space domain.

III. Perceived threats to strategic stability

Even with the conceptual commonalities between China and the UK identified in the previous section, dialogue on space and strategic stability is unlikely to succeed without shared priorities in threat perceptions. This section examines recent developments in space technology and operations that China and the UK view as particularly threatening. China has expressed concerns about space threats at various United Nations forums in a piecemeal manner, while the UK's Defence Space Strategy categorizes threats on the basis of their disruptive effects, from temporary to permanent.²³ Both states have an interest in curtailing the effects of these threats.

Space-based missile defence

China has long criticized US missile defences, including past US initiatives that considered space-based missile defence, arguing that they undermine first-strike stability between China and the USA and threaten China's nuclear survivability.²⁴ In 2025 the USA announced a multilayered homeland missile defence initiative, the 'Iron Dome for America', subsequently renamed 'Golden Dome'.²⁵ Golden Dome is intended to defend the USA against all types of missiles 'and other next-generation aerial attacks from peer, near-peer and rogue adversaries', and will include a layer of space-based interceptors.²⁶ China has been highly critical of Golden Dome and urged the USA

²¹ 航天工程大学太空安全研究中心 [Aerospace Engineering University, Space Security Research Center], 'Building a solid space base for national security' [铸牢国家安全的太空高地], 解放军报 [PLA Daily], 7 Mar. 2019. See also Saalman, L., 'Multidomain deterrence and strategic stability in China', SIPRI Insights on Peace and Security No. 2022/2, Jan. 2022.

²² British Ministry of Defence, 'Defence Space Strategy: Operationalising the space domain', Policy paper, 1 Feb. 2022, pp. 16, 32.

²³ British Ministry of Defence (note 22), p. 10.

²⁴ Wu, R., 'Keeping pace with the times: China's arms control tradition, new challenges, and nuclear learning', *International Security*, vol. 50, no. 1 (summer 2025), pp. 82–117.

²⁵ White House, 'The Iron Dome for America', Presidential Action, 27 Jan. 2025; and Erwin, S., 'Golden Dome replaces Iron Dome: Pentagon renames missile defense initiative', *SpaceNews*, 28 Feb. 2025.

²⁶ White House (note 25), sec. 3(a).



to abandon its development.²⁷ As Chinese experts note, to date no state has openly deployed kinetic or non-kinetic offensive weapons in orbit.²⁸ The technical impracticality of space-based missile defence is well-established.²⁹ However, for China this impracticality may not matter, as it perceives the very pursuit of this initiative by the USA as ‘seriously undermining global and regional strategic stability’.³⁰ Chinese experts observe that implementation of Golden Dome will face major technical hurdles, budget constraints and domestic political setbacks, but will nonetheless challenge strategic stability by stimulating an arms race, weaponizing space and weakening strategic mutual trust.³¹ There are also concerns that advances in missile defence technology will be used strategically to influence US allies.³² China’s position on Golden Dome was articulated in a joint statement with Russia.³³ While the UK has not yet commented publicly on Golden Dome, any consequent Russian capability buildup in missile defence would have direct implications for the UK’s security.

Development, deployment and detonation of a nuclear anti-satellite weapon

The UK has strongly condemned Russia’s reported development of a nuclear anti-satellite weapon (ASAT) capability.³⁴ British responses followed US reports of this weapon and attempts in 2024 to introduce a UN Security Council resolution on the unlawful nature of Russia’s actions.³⁵ The US reports contained few details, only mentioning a ‘satellite designed to carry a nuclear weapon’, with officials clarifying it was not active and had not been deployed.³⁶ At the UN General Assembly in October 2024, the UK co-sponsored a resolution which reiterated the prohibition on placement of weapons of mass destruction in orbit, and urged states to refrain from developing such weapons.³⁷ Although the resolution was adopted by wide majority, China abstained. China did not expand on its reasoning—a notable

²⁷ Chinese Ministry of Foreign Affairs, ‘Foreign Ministry spokesperson Mao Ning’s regular press conference on May 21, 2025’, 21 May 2025; Chinese–Russian joint statement on global strategic stability, Kremlin, 8 May 2025.

²⁸ Guo X., ‘US “Golden Dome” will undermine strategic balance among major powers’, *China Military Online*, 11 June 2025.

²⁹ See Grego, L., ‘Do technology advances allow missile defences to make up ground?’, *Journal of Strategic Studies*, vol. 48, no. 2 (Apr. 2025).

³⁰ Sun, X., Director-General of the Department of Arms Control of the Chinese Foreign Ministry, Statement on nuclear disarmament, Third Session of the Preparatory Committee for the 2026 NPT Review Conference, Geneva, 29 Apr. 2025.

³¹ 江天骢袁杭 [Jiang Tianjiao, Yuan Hang], ‘美国特朗普政府 “金色穹顶” 导弹防御系统评析’ [Analysis of the Trump administration’s “Golden Dome” missile defense system], 《现代国际关系》 [*Modern International Relations*], no. 6 (2025).

³² 江天骢袁杭 [Jiang Tianjiao, Yuan Hang] (note 31).

³³ Chinese–Russian joint statement on global strategic stability (note 27).

³⁴ Eckersley, F., ‘This resolution was not a serious attempt to address the security of space’, UK explanation of vote, United Nations Security Council, 9630th Meeting, New York, 20 May 2024.

³⁵ United Nations, Security Council, 9630th Meeting, New York, 20 May 2024, S/PV.9630.

³⁶ US Space Force, ‘Space threat fact sheet’ (note 2). See also the Center for Strategic & International Studies (CSIS) interview with Assistant Secretary Mallory Stewart of the US Department of State’s Bureau of Arms Control, Deterrence, and Stability: ‘The nuclear option: deciphering Russia’s new space threat’, CSIS interview transcript, 3 May 2024.

³⁷ United Nations, General Assembly, 79th Session of the First Committee, ‘Weapons of mass destruction in outer space’, Revised draft resolution, A/C.1/79/L.7/Rev.1, 30 Oct. 2024, paras 4, 6.

omission given that a nuclear detonation in space would severely damage its military systems and overall space programme. China has also positioned itself as a leader in advancing space law and governance in UN forums, which would be adversely affected by such a development. For these reasons, China has far more incentive than Russia to refrain from development, deployment and detonation of a nuclear ASAT. Some Chinese experts have raised concerns that if Russia pursues nuclear ASAT capability, it could be interpreted as a form of ‘successful’ deterrence signalling by Russia through ‘escalate to de-escalate’, given the well-known devastating effects of a nuclear detonation and Western states’ recognition of Russia’s willingness to undertake such an escalatory—and illegal—act.³⁸ Still, experts from China, European Union (EU) member states, the UK and the USA unanimously categorized a nuclear detonation in space, or even deployment of a nuclear ASAT in orbit, among acts that have the highest potential for escalation.³⁹

Rendezvous and proximity operations

Rendezvous and proximity operations (RPOs) may entail different types of manoeuvres. They can have diverse civilian applications but may also be used for aggressive purposes and can possibly even be perceived by adversaries as pre-cursors to ‘co-orbital’ ASATs, which target satellites in orbit.⁴⁰ The rise of uncoordinated and unnotified RPOs has prompted the UK to underscore high potential for unintended escalation, especially if such operations concern ‘strategically important satellites used for nuclear missions’.⁴¹ China, Russia and the USA have reportedly conducted uncoordinated proximity operations near rival spacecraft with growing frequency.⁴²

There are few regulations for RPOs, with no explicit binding obligation to notify states or maintain distance between space objects. This lack of governance paves the way for inflammatory and incorrect rhetoric that can aggravate tensions. For example, in March 2025 US officials claimed China was practising ‘dogfighting’ in space, referring to Chinese proximity operations conducted between five of its own spacecraft.⁴³ ‘Dogfighting’ is inaccurate in this context because it describes close-range aerial combat and exercises, whereas the manoeuvre undertaken by China in this instance did not involve warring parties and exhibited no element of combat. These reports highlight the need for appropriate terminology for different types of RPOs that are agreed upon by all actors. British officials have not commented on the US allegations, yet these developments underscore the UK’s calls for regulation

³⁸ Closed exchanges at ‘Space and strategic stability’ workshop, SIPRI, Stockholm, 9–10 Oct. 2025.

³⁹ Closed exchanges (note 38).

⁴⁰ Rendezvous typically involve a manoeuvre where different space objects physically connect, whereas proximity operations involve objects manoeuvred in close vicinity to each other without connecting.

⁴¹ United Nations, Open-ended Working Group on Reducing Space Threats through Norms, Rules, and Principles of Responsible Behaviours (UN OEWG on Reducing Space Threats), Statement by the UK, Second Session, Geneva, 14 Sep. 2022.

⁴² See e.g. Chen, S., ‘Study says US spy satellites approach China’s high-value space assets a “threat to security”’, *South China Morning Post*, 5 May 2023; Hitchens, T., ‘The stellar dance: US, Russia satellites make potentially risky close approaches’, *Breaking Defense*, 10 Apr. 2019; and Jones, A., ‘A Chinese spacecraft has been checking out US satellites high above Earth’, *Space.com*, 3 Mar. 2023.

⁴³ Gordon, C., ‘China practicing “dogfighting in space,” US Space Force Says’, *Air & Space Forces Magazine*, 18 Mar. 2025.



to minimize escalation risks stemming from RPOs—an area of interest to China as well.

Commercial activities

China has objected to commercial space activities being used to ‘intervene in other countries’ armed conflicts or internal affairs’.⁴⁴ This ostensibly refers to US companies such as SpaceX providing space services through its Starlink satellite network to Ukraine in the ongoing war with Russia. The USA has similarly accused China of providing satellite imagery through its commercial firms to the Wagner Group, consequently imposing sanctions on Chinese company Spacety in 2023.⁴⁵ However, China’s concerns about commercial activities are layered, and can be distinguished on the basis of technical and legal concerns about Starlink and China’s priorities for its own space sector.

China’s space sector initially relied on state-run enterprises, but multiple private companies have been established in recent years through venture capital funding, such as Chang Guang Satellite Technology, Galactic Energy and LandSpace. These trends have accelerated since China took national regulatory steps to enhance the role of the private sector in space launch and manufacturing.⁴⁶ Moreover, various provincial governments increasingly seek to engage in space activities through provincial funding, due to the associated prestige of advanced space programmes and perceptions that these boost a province’s status.⁴⁷ China’s concerns for governance of commercial activities are thus not only security-driven, but also motivated by its objective to expand Chinese commercial space activities. These interests could motivate China to engage in initial discussions with the UK on clarifying international law governing commercial space activities.

Starlink

China’s primary concern about Starlink’s role in the Russia–Ukraine war appears to be the high potential for escalation, particularly if it leads Russia to consider the USA as a party to the conflict. China’s nominated governmental expert in the 2023–2024 UN Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space (GGE on PAROS) mentioned SpaceX’s use of Starlink ‘to interfere in regional armed conflicts’ as ‘complicating the situation of outer space security’ and also highlighted legal challenges posed by ‘the interference of commercial space companies in armed conflicts’, including questions pertaining to state

⁴⁴ Chinese State Council Information Office, ‘China’s arms control, disarmament, and nonproliferation in the new era’ (note 8).

⁴⁵ US Department of the Treasury, ‘Treasury sanctions Russian proxy Wagner Group as a transnational criminal organization’, Press release, 26 Jan. 2023.

⁴⁶ See State Council Information Office, ‘国务院关于创新重点领域投融资机制鼓励社会投资的指导意见’ [Guiding opinions of the State Council on innovating investment and financing mechanisms in key areas and encouraging social investment], 国发 [Guofa] No. 60, 26 Nov. 2014; and Xinhua, ‘China’s space authority sets up new department to oversee commercial space sector’, 30 Nov. 2025.

⁴⁷ Jones, A., ‘Chinese provinces are fueling the country’s commercial space expansion’, *SpaceNews*, 31 Jan. 2025.

responsibility for a company's actions, and potential for a state to lose 'neutral' status under international law.⁴⁸

Chinese literature suggests concerns about Starlink's technical abilities as well. Some Chinese experts have incorrectly claimed that Starlink satellites could target adversary systems in various ways.⁴⁹ Some have even conflated Starlink with Starshield—a separate, more recent SpaceX megaconstellation exclusively for US national security missions that uses Starlink-derived technology.⁵⁰ Chinese experts are also concerned that Starlink provides intelligence, surveillance and reconnaissance (ISR) operations and information support for US air, land and naval forces.⁵¹

The UK and other European states have very different concerns about Starlink: the reliability of SpaceX (and the USA) as a service provider to Ukraine. SpaceX restricted Ukrainian access to Starlink on several occasions, while the second Trump administration reportedly used Starlink as a bargaining chip in its bilateral critical minerals deal with Ukraine.⁵² Such incidents have fuelled calls for European alternatives to Starlink, possibly through Eutelsat's OneWeb megaconstellation, in which the UK has a significant stake.⁵³

China has also argued that commercial low-orbit megaconstellations of numerous satellites (like Starlink) enable select states' occupation of 'orbit/spectrum resources'.⁵⁴ In addition, there are concerns that such constellations 'infringe upon sovereignty of other states' in the event of unauthorized services that disregard domestic laws.⁵⁵ Nevertheless, China is currently pursuing its own megaconstellations, Guowang and Qianfan.⁵⁶ At the same time, the UK sees opportunities in the satellite communications sector, particularly with OneWeb. However, some British experts have raised concerns about the finite nature of spectrum resources.⁵⁷ Given Chinese and

⁴⁸ United Nations, Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space (UN GGE on PAROS), Second Session, Working paper submitted by Liang Guotao, GE-PAROS/2024/WP.1, 22 Mar. 2024, pp. 7–8.

⁴⁹ See e.g. 陈岳 [Chen Yue], '首批 "直连手机" 卫星升空 | 美 "星链" 计划加速布局' [First batch of satellites capable of directly connecting to cell phones launched; US Starlink project accelerates deployment], 中国军网-中国国防报 [China Military News], 9 Jan. 2024; and Ren Y. et al., 'The development status of Starlink and its countermeasures', *Modern Defence Technology*, vol. 50, no. 2 (Apr. 2022), p. 14.

⁵⁰ Du Y. and Zhang H., 'Starlink militarization and its impact on global strategic stability', *Journal of International Security Studies*, 19 Sep. 2023.

⁵¹ Xu N., '外空信息支援: 大国安全博弈的战略枢纽' [Outer space information support: strategic hub of powers security game], *Pacific Journal*, vol. 24, no. 11 (2016); 毛炜豪, 刘网定 [Mao W., Liu W.], '往期回顾上一期下一期 声称组建天基互联网, 而军事应用意图明显—美 "星链计划" 威胁太空和平' [Claiming to build a space-based internet, but with clear military applications—the US "Starlink" project threatens space peace], Chinese Military Online, 11 June 2020; Peng Z. et al., '“星链”在俄乌冲突中的运用分析与思考启示' [Analysis and reflection on the application of Starlink in the Russia–Ukraine conflict], *Tactical Missile Technology*, no. 6, Nov. 2022.

⁵² Radin, A. et al., 'Lessons from the war in Ukraine for space: Challenges and opportunities for future conflicts', RAND Research Report, 21 May 2025 pp. 13–15; and Fenbert, A., 'US threatens to shut off Starlink if Ukraine won't sign minerals deal, sources tell Reuters', *Kyiv Independent*, 22 Feb. 2025.

⁵³ Zadorozhnyy, T., 'Eutelsat in talks with EU to possibly replace Starlink in Ukraine, CEO confirms', *Kyiv Independent*, 6 Mar. 2025.

⁵⁴ UN OEWG on Reducing Space Threats, 'Submission of China pursuant to United Nations General Assembly Resolution 76/230', Working paper, A/AC.294/2022/WP.10, 13 May 2022, p. 2.

⁵⁵ Statement by Representative of China, Arria-Formula Meeting of the Security Council on Issues Relating to Low-Earth-Orbit Satellites, Permanent Mission of PRC to the UN, 29 Dec. 2025.

⁵⁶ Xin, L. and Bela, V., 'China launches first satellites for GuoWang project to rival SpaceX's Starlink', *South China Morning Post*, 16 Dec. 2024; and Xin, L., 'Has the Qianfan satellite network—China's Starlink rival—run into trouble?', *South China Morning Post*, 23 July 2025.

⁵⁷ UK Engagement with Space Committee, *The Space Economy: Act Now or Lose Out*, House of Lords Paper No. 190, Report of Session 2024–26, 4 Nov. 2025, paras 109–110.



British ambitions to pursue megaconstellations, both states could explore related governance concerns about permitted use.

Enhanced intelligence, surveillance and reconnaissance

Space-based ISR is a long-standing practice that enables states to gather information on adversaries, such as imagery of strategic assets, without infringing on territorial sovereignty. Chinese experts have highlighted concerns about US enhanced ISR capabilities, particularly satellites enabled with ‘ground moving target indication’ to track mobile targets.⁵⁸ In particular, the possibility that the USA can detect and locate Chinese mobile missiles, which are key to Chinese nuclear forces, and impact China’s nuclear deterrence strategy.⁵⁹ As a result, despite decades of state practice of using satellites for ISR, China could view enhanced ISR as a development that influences strategic stability. The UK meanwhile has relied extensively on the USA’s ISR capabilities, and only recently prioritized enhancing its own capabilities. In February 2025 the UK announced the development of Oberon, a new satellite system with synthetic aperture radar to facilitate high-resolution images ‘at any time and through any weather’.⁶⁰

IV. Approaches to space governance

China and the UK may have a mutual interest in addressing the space threats discussed in section III, particularly RPOs and nuclear ASAT capabilities, since these may directly affect strategic stability. This section outlines both states’ approaches to space governance, identifying differences in underlying assumptions and terminologies. Understanding these differences can be constructive by helping address misperceptions and misunderstandings that may arise about each state’s approach.

UK–NATO cooperation and China–Russia cooperation

Cooperation with NATO is central to the UK’s security. NATO, which relies primarily on US space systems, has taken steps to clarify its space policy and institutional capacities.⁶¹ Despite the UK’s and NATO’s use of relatively tempered language for space compared to the more aggressive terms of the USA (e.g. NATO ‘operational’ versus US ‘warfighting’), China has sometimes conflated the UK, NATO and US positions, describing their actions collectively as turning space into ‘a new battlefield’.⁶² Yet China’s motivations for these statements likely vary, at times seeking to pinpoint US influence over

⁵⁸ Marrow, M., ‘Space Force launching sats to “enable” GMTI in 2028’, *Breaking Defense*, 4 Aug. 2025.

⁵⁹ Li B. and Wu R., ‘US strategy of damage limitation vis-à-vis China: long-term programs and effects’, *China International Strategy Review*, vol. 6 (2024).

⁶⁰ British Ministry of Defence, Defence Equipment and Support, and Defence Science and Technology Laboratory, ‘New satellite deal to boost military operations, jobs and growth’, Press release, 10 Feb. 2025.

⁶¹ Raju, N. and Grego, L., ‘The space–nuclear nexus in European security’, SIPRI, June 2025, pp. 4–5.

⁶² See e.g. UN OEWG on Reducing Space Threats, ‘Submission of China pursuant to United Nations General Assembly Resolution 75/36’, Working paper, A/AC.294/2022/WP.9, 13 May 2022, para. 5.

European allies, at others, warning allied states against NATO presence in East Asia.

China–Russia cooperation in space spans several areas, including exploration, diplomacy, governance, satellite navigation, and possibly missile early warning systems.⁶³ Russia’s engagement with China is influenced by Western sanctions, which, in addition to the war in Ukraine, have significantly constrained Russia’s space budget. Historically, Russia adopted a somewhat condescending ‘strong partner’ posture and was reluctant to cooperate on sensitive technologies that could strengthen China as a potential competitor, but China’s rapid advances in space capabilities have now altered this dynamic, leading to more equal footing in their space cooperation.⁶⁴ Some Chinese experts argue that such cooperation contributes to stability within the China–Russia–USA strategic triangle, while others caution that it may exacerbate competitive dynamics in space.⁶⁵ A degree of mutual distrust therefore persists, which is often not acknowledged among Western states—though these dynamics tend to be overshadowed by Chinese and Russian shared concerns about the USA.

Direct-ascent anti-satellite missile tests

The UK is one of 37 states to date that have pledged not to conduct destructive (debris-creating) DA-ASAT missile tests and has highlighted the detrimental effects of such tests on the space environment.⁶⁶ When the UN General Assembly adopted the US-led resolution urging states to commit to not conduct destructive DA-ASAT missile tests in 2022, China voted against it. However, it is unclear whether China is entirely opposed to prohibiting such DA-ASAT tests. Earlier in the year, China had criticized the US national pledge not to conduct these tests on the basis that the USA did ‘not mention development, production, deployment, or use of such weapons’.⁶⁷ This raises the question whether China’s opposition to the resolution was based on the narrow focus on testing and whether it would have voted favourably on a ban extending to development, production, deployment or use of DA-ASATs. Another possibility is that China may be more inclined to consider a ban that extends to other types of ASAT weapons, such as co-orbital ASATs, or a ban proposed as a legally binding commitment.

China has not articulated views on whether DA-ASAT tests are useful for deterrence, nor is there consensus among the Chinese expert community on this point. Arguably, the deterrent value of DA-ASAT tests is limited since China’s 2007 ASAT test already conveyed its potential use to adversaries, and there are no specific scenarios where China would gain from a DA-ASAT test—whether in crisis (since a DA-ASAT test does not bring any military

⁶³ Raju and Grego (note 61), pp. 12–14.

⁶⁴ He Q., ‘China–Russia technology cooperation in space: mutually needed or mutually exclusive?’, *Pacific Review*, vol. 36, no. 4 (2023); and He Q. and Ye N., ‘中国与俄罗斯太空合作分析’ [Analysis of space cooperation between China and Russia], *俄罗斯研究* [Russian Studies], no. 4, 2021.

⁶⁵ Closed exchanges (note 38).

⁶⁶ British Foreign, Commonwealth & Development Office and UK Space Agency, ‘Responsible space behaviours: the UK commits not to destructively test direct ascent anti-satellite missiles’, Press release, 3 Oct. 2022.

⁶⁷ UN OEWG on Reducing Space Threats, First Session, ‘General remarks by HE Amb. Li Song’, May 2022, p. 4.



advantage and instead risks damaging the state's own systems) or in peacetime (where it could be interpreted as intent to escalate, encourage adversaries to respond, and possibly fuel China's political isolation in multilateral space forums).

Assumptions underpinning transparency and risk reduction

Transparency

China's limited transparency about its capabilities and nuclear arsenal have led Western experts to question its information-sharing and intent, which can contribute to misperceptions about Chinese space activities. Evidently, China relies on ambiguity for deterrence. However, the term 'transparency' itself could be perceived by China with suspicion as a means of deterrence signalling—for example, state disclosure of capabilities can serve as a reminder to adversaries of costs of potential attack.⁶⁸ China sees sharing of a state's strategies and policies as 'demonstrations of the State's intention' indicating potential for misperceptions about a state's preparedness and willingness to escalate.⁶⁹ This approach contrasts with that of the UK, which stresses the importance of transparency as the basis of risk reduction, for example by publishing policies on the space domain.

Crisis communication channels

The need for crisis communication channels such as hotlines has been raised repeatedly in space security talks. Bilaterally established hotlines can facilitate fast, secure exchanges between states in crises. A number of such hotlines have been established between various states at different levels, including direct links between heads of states, military generals and foreign ministries.⁷⁰ China and the UK have each entered into hotline agreements with other states—for example, China with the USA, and the UK with the (then) Soviet Union.⁷¹ China and the USA previously sought a 'space hotline' to prevent collisions in 2015.⁷² In 2023 the US Space Force also highlighted the need for a crisis line with China.⁷³ While China and the UK have had varying levels of diplomatic engagement, and agree on the need for stronger strategic communication, they do not currently have a hotline.⁷⁴ Establishing new hotlines, however, is complex, and should be assessed on a needs basis. Indeed, some states may be skeptical of hotlines, and may view crisis communication itself as permitting hostile actions while reducing likelihood of retaliation. There are also concerns of potential misuse, where hotlines can serve as vehicles for political signalling—for example, if one party uses the hotline and the other party chooses not to respond, this can convey disapproval, or induce the first party to act or not act. Organizational struc-

⁶⁸ 刘逢安 [Liu F.], '解放军报称开放军事训练透明度可增加威慑功能' [The PLA Daily states that increasing transparency in military training can enhance deterrence], Sina, 29 Apr. 2008.

⁶⁹ UN GGE on PAROS (note 48), para. 18.

⁷⁰ See Miller, S. E., 'Nuclear hotlines: Origins, evolution, applications', Stanley Centre for Peace and Security Analysis & New Insights, Oct. 2020.

⁷¹ Miller (note 70).

⁷² Jones, S., 'US and China set up space hotline', *Financial Times*, 20 Nov. 2015.

⁷³ Murakami, S. and Kubo, N., 'US exploring potential space force hotline with China', Reuters, 25 Sep. 2023.

⁷⁴ See Chinese Embassy in the UK, 'China-UK relations', [n.d.].

tures can form additional hurdles, especially where formal authorization is required to respond. Chinese experts thus emphasize that any bilateral communication channel requires a clear purpose and sustained trust between participating entities, as such channels cannot exist in a vacuum.⁷⁵

Terminologies and themes in space security talks

International law, rules-based international order and international humanitarian law

Both China and the UK assert their views on space security based on international law. However, the UK, like the USA and EU member states, also makes reference to a rules-based international order.⁷⁶ China likely associates this term with US foreign policy and views the concept as an attempt by Western states to advance rules rooted in their own political systems, market-oriented economic principles, and particular human rights and ideological frameworks. In essence, China argues that this approach seeks to universalize multilateral ‘family rules’ (家法帮规) set by a small group of Western states and to impose them on the international community, entrenching Western dominance in global governance.⁷⁷ China’s statements on space instead typically use framing that emphasizes international law.⁷⁸

At the same time, China is also reluctant to discuss application of international humanitarian law (IHL) in outer space. Many states including the UK stress that IHL applies to space in the event of armed conflict. China has argued against discussing IHL in space security processes, first on the basis of an appropriate forum, claiming that IHL did not fall within the ambit of that particular UN space process; and second, arguing it is difficult to claim IHL ‘fully’ applies due to challenges in legal interpretation, including lack of consensus on definitions of ‘attack’, ‘weapon’ and ‘armed conflict’.⁷⁹ Some Chinese experts suggest this indicates China’s reluctance to discuss IHL in space is more an issue of sequence and timing than actual opposition, as China prefers to first clarify how IHL would apply to space.⁸⁰ This likely stems from concerns that interpretations of IHL may be unbalanced and favour legal protection to one party to a conflict—a fear possibly driven by lack of exchange on the legal status of commercial space systems in conflict.

Responsible behaviours in space

In 2020 the UK introduced a resolution at the UN General Assembly on reducing space threats through norms, rules and principles of responsible behaviour, which culminated in an open-ended working group (OEWG)

⁷⁵ Closed exchanges (note 38).

⁷⁶ See UN GGE on PAROS, Second Session, ‘Working paper submitted by the United Kingdom on the prevention of an arms race in outer space’, GE-PAROS/2024/WP.6, 12 Apr. 2024, para. 3.

⁷⁷ Ma X., ‘Safeguarding the multilateral international order: Upholding fundamental principles and breaking new ground’, *Foreign Affairs Journal*, no. 148 (summer 2023).

⁷⁸ See e.g. UN OEWG on Reducing Space Threats, Third Session, Working paper submitted by China, A/AC.294/2023/WP.2, 27 Jan. 2023, paras 5–6.

⁷⁹ UN OEWG on Reducing Space Threats, Third Session, Fifth Meeting, 1 Feb. 2023, UN Web TV, 02:45:36–02:56:54 (China).

⁸⁰ Closed exchanges (note 38).



on this topic convened from 2022 to 2023.⁸¹ This OEWG was tasked with consideration of obligations and restraints on behaviours, since it has been challenging for states to agree on limits on space capabilities. Though this OEWG did not reach consensus, these exchanges on space security were constructive and have continued to inform subsequent UN space processes, including the newly constituted OEWG convening from 2025 to 2028.⁸²

However, China has argued the UK's approach to responsible space behaviours 'is over-simplified and subjective, and can easily be used as a political tool'.⁸³ China appears concerned that deeming actions 'responsible' and 'irresponsible' enables naming and shaming without any basis in international law. This concern appears specific to the space domain, rather than the overall strategic context, since China refers to itself as a 'responsible' nuclear weapon state.⁸⁴ Nor does China object to behavioural restraints or oppose norms or non-binding measures; indeed, China itself proposed potential norms of behaviour for space in the 2022–23 OEWG process.⁸⁵ While China expresses clear preference for legally binding measures for space, it also advocates political measures, such as the UN's voluntary guidelines for the long-term sustainability of activities in outer space, and China's own proposal for the five permanent members of the Security Council (P5) to consider no-first-use policies for nuclear weapons.⁸⁶

This suggests scope for China–UK engagement on behavioural measures and norm-building, so long as China is assured these are objective, and ultimately align with its long-term objective for a legally binding treaty for the space domain.

'Risk' and 'threat'

The UK has stated that 'use of the term "threats" in the work of the [2022–23] OEWG should focus on the harmful effects that can result from the behaviours of States in terms of how they deploy or use capabilities that can inflict damage to, or interfere with, the space systems' of other states.⁸⁷ Though it has not interpreted 'risk', the UK has sometimes used the term in relation to accidents in space, to clarify that such topics are more suited to talks on space safety.⁸⁸ China has not defined either term, but Chinese experts refer to risk (风险) as encompassing longer-term, uncertain possibilities of harm, including inadvertent or deliberate escalation, and emphasize potential consequences and the inherent uncertainty of what might occur.⁸⁹ In contrast, threat

⁸¹ UN General Assembly Resolution 75/36, 7 Dec. 2020. See also UN General Assembly Resolution 76/231, 30 Dec. 2021.

⁸² See Raju, N., 'Space security governance', *SIPRI Yearbook 2025: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2025).

⁸³ UN OEWG on Reducing Space Threats, A/AC.294/2022/WP.9 (note 62), 13 May 2022, para. 6.

⁸⁴ See e.g. Chinese Consulate in Zurich, Foreign Ministry spokesperson Guo Jiakun's regular press conference on October 28, 2025, 28 Oct. 2025.

⁸⁵ UN OEWG on Reducing Space Threats, A/AC.294/2023/WP.2 (note 78).

⁸⁶ United Nations, Office for Outer Space Affairs, Committee on the Peaceful Uses of Outer Space, 'Guidelines for the long-term sustainability of outer space activities', ST/SPACE/79, Jan. 2021; and Chinese Ministry of Foreign Affairs, 'No-first-use of Nuclear Weapons Initiative', 23 July 2024.

⁸⁷ UN OEWG on Reducing Space Threats, 'Rules and principles of responsible behaviours', Working paper submitted by the United Kingdom, A/AC.294/2022/WP.11, 10 May 2022, para. 8.

⁸⁸ Liddle, A., Statement by the United Kingdom to the UN OEWG on Reducing Space Threats, Geneva, 13 May 2022, p. 1.

⁸⁹ Closed exchanges (note 38).

(威胁) denotes a more specific and intentional expression of harm, often used to coerce or extract concessions, highlighting an explicitly offensive posture. In practice, however, the two terms are often used interchangeably and sometimes paired together as a combined notion, as in ‘risks and threats’ (风险与威胁). Understandings of which activities constitute risks and threats in the space domain are thus not uniform, as states may consider criteria beyond intent, including consequences and timing of the activity.

V. Building an agenda for China–UK space dialogue

Chinese and British approaches to space governance are informed by the different assumptions and understandings of terminologies described in section IV. This section suggests that some of these views can be reconciled, or at the very least clarified. It outlines bases for potential dialogue between China and the UK, exploring ways to maintain stability in space in a manner that reflects both states’ respective priorities.

Exchanges on international law

Track 2 exchanges between experts on international law can enable discussion of terms and concepts that are not elaborated under the space treaties. These include ‘authorization and continuing supervision’ and related governance of commercial entities. Discussion can also encourage views on interpretation of ‘due regard’, ‘harmful interference’ and ‘consultation’ under the 1967 Outer Space Treaty; best practices on registration of space objects; and international law on use of force. Such track 2 exchanges can build shared understandings and assist Chinese and UK assessments of which issues have sufficient regulation, and which issues require new rules.

Track 2 exchanges could also include discussion on IHL, including its application to cyber operations against space systems. The 2021 UN GGE on advancing responsible state behaviour in cyberspace adopted a report by consensus which notes that IHL ‘applies only in situations of armed conflict’.⁹⁰ It should therefore be clarified how IHL may apply to cyber operations against space systems in the event of an armed conflict. Overall, such track 2 discussions will help clarify interpretations of international law and popularize notions of what amounts to unacceptable acts in space. Expert exchanges to highlight which actions would incur responses could also develop thinking on space deterrence—which is beneficial for both China and the UK.

Communication channels

China and the UK could consider communication channels at different levels. Both states should seek to establish (and sustain) communication

⁹⁰ United Nations, Report of the Group of Governmental Experts on Advancing Responsible State Behaviour in Cyberspace in the Context of International Security, A/76/135, 14 July 2021, para. 71(f). The Open-ended Working Group on Security of and in the Use of Information and Communications Technologies 2021–2025 echoed this conclusion in its reports. See First Annual Progress Report, A/77/275, 2022, para. 15(b)(ii); Second Annual Progress Report, A/78/265, 2023, para. 29(b)(ii); Third Annual Progress Report, A/79/214, 2024, para. 36(b)(ii); Draft Final Report, A/AC.292/2025/CRP.1, 2025, para. 40(b)(ii)



lines that enable trust-building between actors engaged in space operations. Military-to-military communication is evidently a shared priority. The April 2025 China–UK meeting of military leaders (see section I) suggests scope to explore modalities of which military entities, procedures and forms of communication would be mutually beneficial. Since the reorganization of the PLA Strategic Support Force in 2024, space-related missions are consolidated into a single unit under the Aerospace Force. China’s Ministry of Defence has stated that enhancing crisis management is part of the Aerospace Force’s mission.⁹¹ China has also agreed to set up military-to-military channels with the USA and entered into a dialogue mechanism with France.⁹² These developments indicate that China may be willing to further develop regular military level communications with the UK. China and the UK could also pursue bilateral space communications, possibly exploring exchanges of points of contact for space operations.

Mutual restraint for specific behaviours and systems

The UK has highlighted the escalatory potential of perceived threats involving space systems used for nuclear missions, including uncoordinated and unnotified RPOs. While China has not acknowledged developing nuclear command and control (NC3) satellites, the USA estimates that China has at least three satellites for missile early warning in orbit.⁹³ The UK does not have its own early warning satellites, relying on an integrated system with the USA including radar on its territory. Both China and the UK could discuss mutual restraint regarding NC3 systems through reciprocal commitments against ‘interference’—a term that can be interpreted as being broader than ‘attack’ to include cyber and electronic interference. Such an exchange could form a basis for raising this issue among the P5, exploring potential for a joint commitment at the Security Council.

Both China and the UK could explore commitments to limit certain behaviours, such as notifications prior to a military exercise involving space forces, and commitments not to develop, deploy or detonate nuclear weapons in orbit. Both states could also commit reciprocally not to be the first to conduct military operations that cause irreversible damage to another state’s space systems. The topic of RPOs is clearly an area of mutual interest for both states, so talks can be initiated on understandings of different types of RPOs, how these involve various actors, and measures needed for each type of manoeuvre.

Civil space cooperation

The UK is part of the European Space Agency (ESA), which has engaged in space science cooperation with different Chinese entities, including the Chinese Ministry of Science and Technology and the Chinese Academy of

⁹¹ Chinese Ministry of National Defence, ‘China upholds peaceful utilization of space’, Press release, 19 Apr. 2024.

⁹² Stepansky, J., ‘US, China agree to set up military-to-military channels, Hegseth says’, *Al-Jazeera*, 2 Nov. 2025; and Wang, A., ‘China, France agree to deepen military cooperation as South China Sea tensions rise’, *South China Morning Post*, 27 Apr. 2024.

⁹³ US Department of Defense (DOD), *Military and Security Developments involving the People’s Republic of China 2024*, Annual Report to Congress (DOD: Washington, DC, Dec. 2024) p. 110.

Sciences.⁹⁴ While missions for space science between ESA and the Chinese National Space Administration have been initiated, there is a decline in joint crewed missions for exploration. For instance, European scientists' visit to Tiangong station was cancelled in 2023 because ESA had 'neither the budgetary nor the political' approval.⁹⁵ The UK has previously cooperated with China on civilian space missions, yet these too have decreased considerably in recent years. Chinese, UK, EU and US experts agree that contemporary space relations would benefit from reinvigoration of joint civilian space missions, due to their strong symbolic value.⁹⁶ The UK and China could consider joint crewed missions—for instance, by sending a British astronaut to Tiangong—as well as exchange of tracking data on space debris and cooperation on space science, such as the China–France 2024 mission to observe gamma ray bursts in space.⁹⁷

VI. Conclusions

China and the UK recognize the strategic significance of the space domain and aim to address negative developments in space that may upend stability. Both states' postures and approaches exhibit commonalities despite differences in assumptions and understandings of certain terminologies. Bilateral space-focused dialogue could clarify or even reconcile these differences. However, rather than work towards a specific confidence-building measure, both states first need to build mutual trust in the space domain.

China has stated that 'No country should cross the red line of conflict or war in outer space', indicating that it sees there is a 'red line' to be avoided.⁹⁸ Initiating talks between China and the UK on the bases suggested above are useful steps towards understand where this line might be. Each of these bases could enable information exchange and opportunities for both states to clarify their respective intentions for activities in the space domain. Constructive dialogue between China and the UK could in turn support more effective engagement between China and the USA, providing opportunities to reduce space-related misunderstandings and misperceptions among these actors particularly when US-China relations are strained with limited avenues for communication. Bilateral space-focused dialogue can thus provide opportunities for China and the UK to adopt measures that align with their objectives for stability in outer space.

⁹⁴ See e.g. European Space Agency, 'Dragon 5 cooperation', [n.d.]; and Chinese Academy of Sciences, National Space Science Centre, 'SMILE Mission', [n.d.].

⁹⁵ Jones, A., 'ESA is no longer planning to send astronauts to China's Tiangong space station', *SpaceNews*, 25 Jan. 2023.

⁹⁶ Closed exchanges (note 38).

⁹⁷ China Daily, 'Sino-French satellite launched', Chinese State Council, 24 June 2024.

⁹⁸ UN OEWG on Reducing Space Threats, A/AC.294/2022/WP.9 (note 62), 13 May 2022, p. 3.



Abbreviations

ASAT	Anti-satellite weapon
DA-ASAT	Direct-ascent anti-satellite weapon
ESA	European Space Agency
EU	European Union
IHL	International humanitarian law
ISR	Intelligence, surveillance and reconnaissance
NATO	North Atlantic Treaty Organization
NC3	Nuclear command and control
OEWG	Open-ended working group
P5	Five permanent members of the Security Council
PLA	People's Liberation Army
RPO	Rendezvous and proximity operation
UK	United Kingdom
UN	United Nations
USA	United States

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STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE

Signalistgatan 9

SE-169 72 Solna, Sweden

Telephone: +46 8 655 97 00

Email: sipri@sipri.org

Internet: www.sipri.org

SIPRI RESEARCH POLICY PAPER

SEEKING STABILITY IN OUTER SPACE: OPPORTUNITIES FOR CHINA–UK DIALOGUE

NIVEDITA RAJU AND FEI SU

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ABOUT THE AUTHORS

Nivedita Raju is a Senior Researcher with the SIPRI Weapons of Mass Destruction Programme. Her recent research focuses on trends in space security, space governance, and transparency- and confidence-building measures.

Fei Su is a Senior Researcher with the SIPRI China and Asia Security Programme. Her research interests focus on regional security issues in East Asia with a special interest in North Korea, China's foreign and security policy, maritime security, cybersecurity and artificial intelligence–nuclear nexus.