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THE EMERGING PROMINENCE OF CHINA IN OUTER SPACE

*Wg Cdr PA Patil,
Research Fellow, CAPS*

Space domain earlier dominated by just two countries now involves more than fifty national space agencies. The advances in space research and technology demonstrated by United States and Russia in the 20th century prompted the Asian nations to initiate and accelerate their advanced space programmes in the 21st century. This in turn, acted as a space policy driver for emerging space players like China, India and Japan to progressively develop their own space capability. Of the major space faring nations in Asia, China has demonstrated rapid expansion in its space capabilities that not only prompts an Asian space race but could have a long term impact on global space environment.¹ Chinese space program is multipronged in nature involving and demonstrating its military ambitions and has raised serious concerns amongst other space faring nations on security of their space assets.

China became the third nation in the world after United States and Russia to independently launch a manned spacecraft 'Shenzhou-5' aboard a Long March series of rocket on October 15, 2003. Following this, China has launched a total of four crewed missions between 2005 and 2013 on its 'Shenzhou' series of spacecrafts. It achieved another first in the Asian region with successful launch of space laboratory 'Tiangong-1' in September 2011. The subsequent rendezvous and docking of Shenzhou spacecraft with astronauts on board in 2012 and 2013 further consolidated China's international standing in space. China is now preparing for launch of Tiangong-2 space lab in the year 2016 to be followed up with launching and docking of Shenzhou-11 and Tianzhou-1 cargo spacecraft.² The ambitious manned space programme is progressing smoothly and is aimed towards



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establishing a large orbital space station in year 2022³ on the lines of International space station (ISS). This space station 'Tiangong-3' will be a multi-modular in design to house astronauts and make China the only country in the world to have a manned space station in orbit subsequent to decommissioning of ISS. The space station will cater for scientific experiments helping China acquire advanced satellite, sensor and propulsion capabilities useful for its missile programme.⁴

China has also invested in space exploration programmes to gain credibility and prestige in the field of science and technology. China's lunar space exploration programmes have been successful with orbiting of Chang'e-1 (2007) and Chang'e-2 (2010) missions around the moon for mapping purposes. Following this, the second phase was executed in December 2013 with soft landing of Chang'e-3 mission on moon and despatching a robot called 'Yutu' for lunar exploration. The Chang'e-5 mission has already been evaluated in 2014 for return to earth from lunar orbit and in its third phase, the mission is slated to land on moon to bring back rock samples in year 2017.⁵ In fact, the resilient lunar exploration programme could be aimed for a human landing on moon. Besides the moon exploration programmes, Chinese space scientists have plans for an unmanned Mars exploration mission between 2014 and 2033, and are contemplating a manned landing on Mars during the mid of this century.⁶ China is also collaborating with the European Space Agency (ESA) for a robotic space mission. In fact China has displayed a Mars rover at a popular air show, and there are reports that the country could dispatch a robotic Red Planet mission by the end of the decade.⁷

While China continues to stride on its space advances in support of societal and commercial services, it has consistently worked towards integrating and improvising space services in military domain. It has openly evaluated and tested technologies used in space weapons. On January 11, 2007, China successfully conducted its first anti-satellite (ASAT) test destroying its own inactive polar orbit satellite 'FengYun-1C' and creating one of the



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largest clouds of debris posing danger to global space assets and future space activities. In January 2010, China conducted another test on ground-based mid-course missile interception technology possibly bridging the gap of anti-satellite and missile defense system technologies.⁸ On May 13, 2013, China launched a rocket to reach an altitude of 10000 Km and as per Pentagon; the launch could be aimed at evaluating the trajectory for destroying a satellite in higher orbit.⁹ As per one of the reports, “the system appears to be designed to place a kinetic kill vehicle on a trajectory to deep space that could reach medium earth orbit (MEO), highly elliptical orbit (HEO), and geostationary Earth orbit (GEO)”.¹⁰ Besides this, China is reportedly pursuing development of parasitic satellites, co-orbital ASAT’s, robotic arm in space and could be developing nano satellites to be used as space mines.¹¹

China’s multipronged approach in commercial and exploratory research in space activities reinforces its outlook towards use of space programme for peaceful purposes and its space ambitions seem to be highly nationalistic. However, if we scrutinize its space programme from close quarters, it is evident that the technological advances accrued from its space exploration programmes and peaceful projects are actively integrated in military design to develop space weapons. The demonstration of ASAT capability and evaluating technologies used for space weapons has not only raised concerns amongst the global space powers but also has prompted a country like Japan to revise its space policy advocating use of space for “peaceful purposes” to “extending of space activity for national security”. China’s strides in counter space activities have already impacted the global space environment to a great extent bringing about far-reaching economic, political and social repercussions.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])



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End Notes

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² "China's space station to be established around 2022", at http://news.xinhuanet.com/english/china/2014-09/10/c_133633441.htm accessed on January 28, 2015

³ ibid

⁴ Kathrin Hille, "China takes first step towards space station", at <http://www.ft.com/intl/cms/s/0/c863c828-e37c-11e0-8f47-00144feabdc0.html#axzz3Q6ZSM6CL>, accessed on January 28, 2015

⁵ Karl Tate, "China's Moon Missions Explained (Infographic)", at <http://www.space.com/27670-china-moon-missions-explained-infographic.html> accessed on January 27, 2015

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⁷ Leonard David, "China has big plans to explore the Moon and Mars", at <http://www.space.com/27893-china-space-program-moon-mars.html> accessed on January 28, 2015

⁸ Dellios, Rosita, "China and outer space", *Humanities & Social Sciences papers*, 2012, Paper 571

⁹ Andrea Shalal, "U.S. sees China launch as test of anti-satellite muscle: source", *Reuters*, at <http://www.reuters.com/article/2013/05/15/us-china-launch-idUSBRE94E07D20130515> accessed on Jul 17, 2014

¹⁰ Brian Weeden, "Through a Glass, Darkly Chinese, American, and Russian Anti-satellite Testing in Space", March 17, 2014, at http://swfound.org/media/167224/Through_a_Glass_Darkly_March2014.pdf accessed on July 09, 2014

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