Speed is the New Stealth-The Role of Hypersonic Systems

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A new debate has been started in the strategic thinking and discourse, on publishing the story that appeared in the Washington Free Beacon dated on January 13, 2014, specifying that on January 9, 2014.

China held the first of what could be a series of tests to check on the speed of its new experimental hypersonic glide vehicle (HGV) which would approach its target at a velocity of up to 10 times the speed of sound. Basically dubbed as WU-14 by Pentagon, this development interpreted to be designed for mounting on intercontinental ballistic missiles, as when the hypersonic vehicle is detached from the missile, it could travel as fast as Mach 10 from near space on the way to striking its target. Beauty of the HGV is that it can perform hypersonic precision strikes while maintaining a relatively low altitude and flat trajectory, making it far less vulnerable to missile defences.

The hypersonic vehicle represents a major step forward in China’s strategic nuclear and conventional military and missile programmes. It represents a significant military advance for Beijing. With the integration of strategic analysis and planning into technical research, China’s pursuit of hypersonic and high-precision weaponry promises to be faster and more focused than that associated with its previous anti-satellite and ballistic missile defence related research and programmes. China’s military affairs specialists believe that the hypersonic vehicle test is a significant milestone and appears to be a part of China’s development of warfare weaponry that would assist China’s overall weaker military forces to defeat the more technologically advanced militaries.

Whereas, Washington claimed that this artillery is aimed to distribute warheads through United States (US) missile defences. Rather, this hypersonic missile delivery vehicle has the capability of penetrating US missile defence system and delivering nuclear warheads with record breaking speeds. American defence strategists are responding to the China’s test in a way that this hypersonic glide vehicle will travel from
the edge of space at speeds ranging between Mach 8 and Mach 12, or between 6,084 miles per hour and 9,127 miles per hour. Such speeds would challenge the current system of US missile defences, including a combination of long-range interceptors, medium-range Sea and land-based interceptors, and interceptors designed to hit incoming missiles closer to targets.

Basically on the one hand, the testing of the ICBM hypersonic warhead is the first practical achievement of a large-scale programme to create hypersonic weapons, a programme that China is translating into life. China has been engaged in developing hypersonic cruise vehicles for several years. In July 2012, the Chinese media reported the commissioning in China of a unique high-speed wind tunnel capable of testing model aircraft at speeds of up to Mach 9. Now China has reported the flight test of a hypersonic cruise vehicle. But China's recent test shows that Beijing may deploy its ICBMs with hypersonic warheads in the foreseeable future. None of the existing missile defence systems can bring down a hypersonic glide vehicle, so once China starts deploying such warheads, it will boost the reliability of its nuclear forces and add to stability of its strategic nuclear forces in the face of existing missile defence system. It is safe to assume that the People's Republic of China is following Russia's and US and will not limit itself to the development of hypersonic technologies in the interests of its strategic nuclear triad.

On the other hand, once China gets its non-nuclear hypersonic weapons, it will be in a position to much more effectively counter any carrier strike forces. China is making progress in manufacturing very powerful high-speed missiles to kill enemy aircraft-carriers, one such missile being the DF-21D anti-ship missile, which China has already made. The moment China obtains a more manoeuvrable hypersonic cruise missile to attack carrier forces, the aircraft-carrier defence system is dead, and the concept of world fleet development should be revised.

In fact, hypersonic vehicles, which are also being designed by the US, India and Russia, are developed for precise targeting, rapid delivery of weapons, and are being tested to out manoeuvre hostile missiles and space defences. The US and Russia have their own conventional hypersonic weapon programmes. Washington is known to consider the use of its non-nuclear hypersonic weapons in the future “Prompt Global Strike” systems. Russia is also engaged in manufacturing non-nuclear hypersonic weapons. The US military in 2011 briefly tested a hypersonic vehicle at 20 times the speed of sound before it crashed into the ocean, though flight trials of other technologies at lesser hypersonic speeds have proceeded successfully.

Currently, US hypersonic research is being carried out by the Pentagon and Air Force through the Force Application and Launch from Continental United States, known as the FALCON programme. Several vehicles are being studied, including the Lockheed HTV-2 or Hypersonic Technology Vehicle, an unmanned, missile-launched manoeuvrable aircraft that glides to earth at speeds up to Mach 20, or 13,000 miles per hour. The US Air Force is also testing the X-37B Space Plane, which has been orbiting earth since December 2012. At the same time Boeing is working on the X-51 WaveRider, a jet-fuelled, air-breathing hypersonic rocket developed for the Air Force to be used for hypersonic attack and reconnaissance missions.

Russia too has confirmed the development of similar ultrasonic technology. Russia had successfully tested a hypersonic warhead in 2005.
Moscow has said it expects to begin fielding hypersonic weapons that could travel at Mach 5 speeds or faster between 2018 and 2025. The Air Force National Air and Space Intelligence Center said in its annual report that Russia is building “a new class of hypersonic vehicle” that would “allow Russian strategic missiles to penetrate missile defence systems.” Likewise, Moscow is also developing the S-500 air and space defence system, with interceptors capable of shooting down hypersonic missiles. Moreover, India is also working on a hypersonic version of its Brahmos missile that could be capable of traveling between five and seven times the speed of sound.

In short, future weapons will include powered and unpowered hypersonic vehicles fired from the last stages of ICBMs and submarine missiles, and from the bomb-bays of strategic bombers. Hypersonic cruise missiles and surveillance drones are also expected in this regard. Military advantages of hypersonic craft include precise targeting, very rapid delivery of weapons, and greater survivability against missile and space defences. Therefore, in the 21st century, hypersonic weapons will prove to be an indispensable asset of a military superpower that China is turning into before every one’s eyes. Still, there is quite a way to go from the first tests to the actual deployment of new weapon systems.

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