



Russian Anti-Satellite Weapons Systems

OE Watch Commentary: Russia is attempting to well position itself for different space contingencies. The accompanying excerpted article from *Izvestia* discusses a few of Russia's anti-satellite developments. Russia has long been interested in various laser technologies to counter imagery satellites. The Sokol-Echelon Laser System, usually referred to as the Beriev A-60, is a powerful laser mounted to an Il-76MD aircraft. In theory, this system will be able to disable overhead satellites, not by shooting them out of the heavens, but instead by damaging their optics or other components. The Krasukha-2 counters aircraft and space-based radar systems by emitting energy at the same frequency as emitted by radars, in order to interfere with the radars' operation. The accompanying article from *Interfax* mentions the development of the 'Tirada-2S,' likely a wide-band SATCOM jammer, and the 'Rudolf,' a mobile anti-satellite missile that is likely launched from an ICBM launcher. **End OE Watch Commentary (Bartles)**

Source: Dmitriy Kornev, "Космос как поле боя: Военный эксперт Дмитрий Корнев — об арсенале будущих орбитальных войн (Space as a Battlefield: Military Expert Dmitriy Kornev - On the Arsenal of Future Orbital Wars)," *Izvestia Online*, 14 December 2017. <https://iz.ru/680335/dmitrii-kornev/kosmos-kak-pole-boia>

The US Armed Forces Strategic Command (STRATCOM) Commander... recently stated that Russia and China are developing and testing antisatellite weapon systems. The General explained about weapons, which can jam [satellite] communications, and about laser weapons...The development of those combat systems is usually conducted in a situation of heightened secrecy but, nevertheless, information about "counter-space" systems become accessible to the public from time to time.

The first thing that comes to mind, when they talk about the creation of jamming by spacecraft – is the somewhat latest domestic radiotechnical and laser systems. The most futuristic of them – is the Sokol-Echelon Laser System [also known as the Beriev A-60] This is a special aircraft complex with an experimental laser mount, which is designed for the destruction of spacecraft optical systems. "The Sokol-Echelon, like other state-of-the-art laser complex, is not capable of shooting down a satellite – a truly fantastic amount of energy is needed to do this. But it can disable the optical sensors..."

The second real counter-space system – is the Krasukha-2 broadband radiotechnical jamming station. Its purpose – is to cover fixed ground-based facilities from air and space electronic reconnaissance systems. The E-8C JSTARS aircraft, the radars of strike aviation aircraft, reconnaissance and reconnaissance-strike unmanned aerial vehicles, and also reconnaissance satellite radars are the Krasukha-2's main targets. Of course, that system – is not a weapon in pure form, but this is a combat radiotechnical system, which can be employed against spacecraft and disrupt the nominal operation of its detection systems...

Source: "Russia says it is developing anti-satellite weapons" *Interfax*, 30 November 2017.

The Russian Federation is developing advanced anti-satellite weapons, a research institute of the Russian Defense Ministry has said.

According to Oleg Achasov, deputy head of the 46th Central Scientific Research Institute, work is under way in several areas and will be completed under the State Armaments Program for 2018-2027. In particular, he said that the Russian Federation is developing "the mobile anti-satellite strike system Rudolf" and "the mobile anti-communications satellite electronic warfare system Tirada-2S"...

According to the website of the Russian Defense Ministry, this Central Scientific Research Institute (TsNII) drafts armaments programs and provides the foundation for "the prospects for the development of the armament system of the Armed Forces of the Russian Federation".

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Taganrog. Beriev Aircraft Company. Beriev A-60.

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