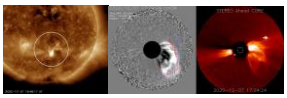
CME 7 Dec 20: Solar Maximum ~2025



INTEGRITY ISR

20 December 2020

The Final Frontier Flash

- Russia Space Overview: Russia is working to expand its anti-access/area denial approach in outer space.
- Russia has more than 160 satellites; this number includes about 100 military spacecraft. Russia tries to maintain at least the third-largest military satellite constellation in orbit. China has 320+ satellites (~105 military).
- Russia's economy is less dependent on space infrastructure than that of America or China. Russia's military space budget is ~$1.6 billion.
- Russia's military satellite inventory consists of 51 communication spacecraft, with 16 Earth-observation satellites. By comparison China has 57 Earth-observation satellites and only three communication satellites.

Russia is focusing its military space capabilities on following: 1) jamming and radio intelligence; 2) sustainability of its command, control and communication systems; and 3) offensive capabilities against ground-based space infrastructure.

02 November 2020: Second MiG-31BM with tail number 82 was pictured carrying the black "293" rocket. The 293 rocket has been associated with the Burevestnik Russian Air Launched Anti-Satellite system.

- Previously only one MiG-31BM aircraft, tail number 81, was modified to carry the 293 rocket.
- Burevestnik ("Stormy Petrel") seems to use interceptor satellites rather than direct-ascent ASAT missiles. In February 2017, a squadron commander of the Russian Aerospace Forces, Yevgeny Polyakov, was quoted as saying by the Russian Ministry of Defense's Zvezda TV channel that a new missile was being developed for the MiG-31BM "capable of destroying targets in near-space."
- Available Burevestnik documents suggest that the project is still in its development phase and has not yet seen any flight tests.
- Air-launched ASAT advantages: 1) access to broader variety of launch azimuths and inclinations; 2) rapid launch preparation/reduced warning.

If Burevestnik is indeed a space-based ASAT system, it would be only one of several ASAT projects that Russia is currently believed to be working on. These include ground-based and air-based direct-ascent systems as well as ground-based electronic jamming systems.

- In 2015 Russia merged its space force with the air force in an attempt to consolidate command authority.
- The Russian Aerospace Forces combines elements of the space forces, air forces, as well as air and missile defense forces under a single command.

Russian Defense Minister Sergei Shoigu said the merger "makes it possible [...] to concentrate in a single command all responsibility for formulating military and technical policy for the development of troops dealing with tasks in the aerospace theater and [...] to raise the efficiency of their use through closer integration."