# Syria’s Air Defenses

## Description

Via Moon of Alabama

[ . . .] There have been discussions in the comments here and elsewhere about the Russians’ on and off announcement of S-300 air defenses in Syria. These discussions lacked military knowledge.

Air defenses are layered:

- Local air defense uses man portable air defense missiles (MANPADs), 20 mm machine cannons and machine guns. Its reach is about 2,000 meters.
- The next level are systems with a range of up to 20 kilometers. Syria has about 40 Pantsyr-S1/2 systems mounted on trucks. (The Russian forces in Syria have about 20 additional Pantsyr-S systems to protect their bases.) These are mobile and an excellent point defense for airports and other significant assets. During its last attack on Syria an Israeli missile managed to destroy one Pantsyr system only because it was being reloaded and therefore could not react. ,
- The next air defense layer are mid range systems like the Syrian S-200 or the more modern Russian BUK-2. These systems have a reach of about 150 kilometers. The old S-200c system Syria currently uses are fired from fixed positions. That makes them extremely vulnerable to pre-programmed precision missile attacks. Israeli strikes have destroyed several such systems in Syria.
- The fourth layer of air defense are high attitude, long range area defense systems. The U.S. has THAAD and Russia has the S-300/ S-400 systems. These have ranges beyond 300 kilometers.

The longer range systems of the higher layers always need additional protection by the lower layers. An S-300 missile costs several tens of thousands of dollars but cannot defeat a small toy drone of the kind ISIS uses to drop hand-grenades onto targets. It needs be protected against these. Pantsyr systems and a few dozen men with MANPADs and machine-guns can do that.

It would make no sense to drop S-300 systems into Syria without having established and secured sufficient air-defense layers 1, 2 and 3 below the long range class. They would soon go up in smoke. There are also additional elements of reconnaissance (radar and electronic warfare systems) and communication, command and control that need to be more sophisticated and widespread to operate S-300 systems. All these high-end long-range systems need highly trained operators and are very expensive.

What Syria currently needs are more Pantsyr systems. It urgently needs to replace the old S-200s with the modern and mobile BUK-2. These systems make far more sense for the Syrian battlefield than the famed S-300. They also have the advantage of being significantly cheaper.

For a more general discussion of Russia’s role in Syria beyond the S-300 nitpicking, I highly recommend the latest piece by Elijah Magnier: Russia is in the Middle East to halt the war, not take part in the Iran-Israel Conflict.