

U.S.-Russian Accord: Studies Will Include Planetary Defense

Oct. 19—Russia and the United States have signed an agreement on “Cooperation in Nuclear and Energy-Related Scientific Research and Development,” which will include “defense from asteroids,” according to a press release issued by the U.S. State Department. The accord was signed on Sept. 16 by U.S. Secretary of Energy Ernest Moniz and the Director-General of Rosatom, Russia’s state nuclear agency, Sergei Kiriyenko, during a meeting of the International Atomic Energy Agency in Vienna. Potential projects have been only generally described in official statements, but media reports indicate that the U.S. contribution will be through Los Alamos National Laboratory’s supercomputer studies, which simulate the deployment of nuclear explosives to break up an asteroid, or alter its trajectory.

Russian officials, notably Deputy Prime Minister Dmitri Rogozin, have called repeatedly for international cooperation for the Strategic Defense of Earth. Moscow’s concern about the threat posed by Near-Earth Objects has intensified since the Feb. 15, 2013 impact of a large meteorite near the city of Chelyabinsk. On Oct. 16, divers recovered the largest fragment of the meteorite yet, from the bottom of Lake Chebarkul. According to Voice of Russia, the rock weighs 570 kg.

Rogozin posted a Facebook message on the occasion: “Who can guarantee that the next rock to fall from the sky won’t be 100 times bigger? Who will swear that this won’t happen? I think we inevitably will have to deal with the question of defending the planet from uninvited ‘guests from outer space.’”

The following day, Rogozin again called for prioritizing the defense of Earth against threats from asteroids and comets. His remark was occasioned by the announcement from the Crimean Astrophysical Observatory in Ukraine, that they have discovered an asteroid of 410 meters in diameter, now named 2013 TV135, which will make a fly-by of Earth at a distance of 1.7 million km in 2032. This is far greater than the

anticipated 34,500 km approach by the similar-size Apophis in 2029, but the announcement and media coverage of it played up the currently estimated 1 in 63,000 chance that the newly discovered object could hit Earth.

Rogozin, who is in charge of Russia’s space sector during its current tumultuous reorganization, tweeted: “A 400-meter asteroid threatens to blow up Earth. This is a super-task for our space industry.”

Controversy

Scientists at Russia’s Lavochkin spacecraft-development center have already proposed to dispatch their MKA-ERDU Anapa craft to 2013 TV135, in order to determine its orbit and characteristics more precisely. Project director Alexander Shakhanov told Novosti press agency: “What distinguishes our project is that the probe has an electrojet cruising engine, making it maneuverable, so after exploring one asteroid it could be sent to another asteroid or to the Moon. This is a small, 400 kg apparatus, which doesn’t require a separate launcher, because its electrojet engine means it could fly to an asteroid from various initial orbits.” Shakhanov said this project is two years old and is being funded at a mere 1 million rubles (\$30,000) per year.

Strategic Defense of Earth continues to be a lively topic among leading Russian officials and scientists. Speaking earlier this month at the Rhodes Forum—Dialogue of Civilizations, Presidential Advisor Sergei Glazyev, an economist and Academy of Sciences member, suggested what he called an “exotic” idea: that leading nations, such as the United States and Russia, could engage in “strategic planning” for the defense of Earth, and that this would represent a “mechanism of trust,” being both an alternative to a new arms race and an intelligent way to direct investment toward global tasks facing mankind.

In the United States, there has been little public mention of the asteroid issue, and no sense of urgency among leading officials.

But no sooner was the agreement announced, than Jeffrey Lewis, writing in *Foreign Policy* magazine of Sept. 23, ridiculed the very idea of exploding an asteroid with a nuclear warhead, calling it a revival of a host of “crazy” ideas formulated by Edward Teller and friends, to be able to build bigger and better bombs. Lewis shows no recognition of the real threat, nor does he suggest any alternative approach to deal with it.