Fifth -year student of the Moscow Aviation Institute Vera Terentyeva has developed a digital copy – a software imitator – a new device that helps satellites navigate in space. The device is called boxing and needs engineers to check the operation of satellite control systems that are in development.

Using a software imitator, engineers can check how the management algorithms work for satellites, without using expensive equipment. The program can imitate the measurement of the position of the stars, show how the device works, and even simulate possible breakdowns.

The Bokz-M device defines how the satellite is oriented in space using stars. This helps to accurately direct telescopes, cameras and antennas to planets, stars, galaxies or land. The device also helps the satellite perform maneuvers in orbit, direct solar panels in the sun and calibrate other orientation devices.

This device is a continuation of a series of BOKZ devices created at the Institute of Cosmic Research of the Russian Academy of Sciences. Two such devices will be installed on the satellite of Arctic-M No. 3, which is being developed by the Mars Bureau. The launch of the satellite is scheduled for 2026.

The program, created by Vera Terentyeva, accurately repeats the operation of the real device. The imitator provides the exchange of data with the “brain” of the satellite, up to the modeling of possible errors and errors in measurements.

According to TASS, the project is almost completed, and finalization is now being carried out. The program is already used to test the equipment and software of the Arctic-M satellite No. 3.

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