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## GENERIC SPACE MICRO PLATFORM BAUMANETS-2: ON THE VERGE OF THE LAUNCH

**Abstract**

Microsatellite “Baumanets-2” is supposed to be launched at the end of 2015 as a piggyback payload from Baikonur spaceport. It represents the second microsatellite which belongs to “Baumanets” series being created by Bauman Moscow State technical University in collaboration with Russian space industry. The main advantage of accepted space platform with 85 kg of mass consists in its possibility to carry a serious payload including Earth remote sensing equipment. The main destination of the mentioned microsatellite is to provide the operator with multispectral (30 m) and panchromatic (18 m) space imagery. Moreover, there are several scientific experiments which are planned to be realized onboard. They were developed by Bauman University (the investigation of mm-waves damping in the atmosphere, GlobalStar usage for telemetry transmission) and by Montpellier-2 University in France (study of micro electronic device degradation caused by space radiation). The form of the microsatellite is similar to a cube with a rib of 80 cm; its attitude control can be carried out in several modes according to the required accuracy. Four fixed solar panels fixed at the edges constitute the main source of energy. The control functions will be delegated after two months of flight testing to University-based Mission Control Centre equipped with all necessary hardware and software for data acquisition and transmission. There are some examples of special software developed by authors helping to automate the process of incoming telemetry decoding and recovering speaking about the main and auxiliary information channels. The automated planning system was created for the purpose of flight control reliability augmentation. Besides, the second reserve antenna complex was set up to duplicate the incoming data streams during the communication sessions with the satellite. The project “Baumanets-2” apart from the described scientific tasks is also students-oriented because it provides students with an opportunity to get experience in real microsatellites’ design, technology and operation from the experiment holder’s and researcher’s point of view. The useful collaboration between students and experienced specialists is guaranteed while creating a microsatellite supporting the generation succession in space industry and creative youth people involvement in the space research.