

Title

Structural analysis of the TUMnanoSAT microsatellite

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Project Nr. 20.80009.5007.09 "Development and launch of
the series of nanosatellites with research missions on the
International Space Station, monitoring, postoperating and
promoting space technologies"

Constructive-functional elaboration of the strength structure
of the TUMnanoSAT microsatellite.

Elaboration of the calculation model and computerized
simulation of the load factors according to the operating
criteria in the real space conditions;

Development and manufacture of microsatellite assembly-
transport and vibration testing devices according to the
technical and technological requirements of the Japan Space
Exploration Agency (JAXA).

Results:

**Description
EN**

- computer simulations based on virtual models have
reduced material costs and resources and substantially
reduced the terms of research-manufacturing-
implementation of results;
- elaboration of the technical documentation for the
manufacture of the components and nodes of the
microsatellite resistance structure;
- manufacture of the physical model of the strength
structure in accordance with the requirements and
restrictions of precision and geometric deviations;
the physical model was vibration tested in the specialized
laboratory of the Institute of Space Sciences in Bucharest.

Class no.