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The geophysical research program for Venus landing station

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Classes of Scientific research tasks.

1.Tectonic activity and solar tides.2 Venus seismic activity.3. Internal structure. 4 Volcanic activity. 5 Structure of a micro seismic field and seismic noise.6 Dynamic, acoustic and electromagnetic processes in an atmosphere.
7 Mechanical and acoustic characteristics of a ground, electric conductivity.
8 Thermal deep stream.

Methods and Instruments apply for decisions of tasks (1-8).

1. Registration of seism acoustic waves, micro seismic fields etc.
The equipment: 3-th axial componential seismometer established on Venus surface and which can function on temperature condition ~500 C^o. Common weight - (mechanical system + electronics block inside station) - 0,8 kg;
Consume power - 50 mW; Dimensions-10x10x10 sm;Mode of functioning – event recorded, i.e. on excess of a signal on an input in system. The 1-axial high-frequency seismometer established either inside station, or outside of; dump in shockproof variant in separate micropenetrator is possible:Common weight - a seismometer + electronics - 0,250 kg; together with micropenetrator, a radioisotope power source and local telemetry - 3,0 - 3,5 kg; overloads - 3.000 g.Consume power ~ 10 mW.
2. Registration of dynamic processes in an atmosphere.
Two specialized devices of micro phonic type - external and internal accommodation: General weight - 0,1 kg; Consume power - 5 mW.
3. Recording of electromagnetic processes in an atmosphere. The mode of reception onboard is possible.
4. Research of properties of a ground. Installation of several send-receive electric and ultrasonic sources in a ground part of a landing ring in weight - 0,05 kg.
5. Thermal heat deep stream- only with micropenetrator using.

Expedition expected research results.

Full performance of seismic experiments will allow receiving the following preliminary results: The conclusion about a level of tectonic activity of Venus:seismisity,volcanic activity, it is possible about seism tectonic currents. Preliminary qualitatively authentic model of an internal structure of Venus: a corn, a mantle, a crust. To start of Venus atmosphere dust research.
To start determine of a property soil parameters. To determine the thermal flow from deep structure and geochemical composition of a crust and the top Venus mantle. To determine and update some solar system parameters and planets origin models. Testing priority advanced methods and technologies for research of Solar system bodies.
Transmission space technologies for needs a scientific and technical industry complex.