

«Sensor» Experiment

**APPLICATION OF THIN-FILM SENSORS
IN SPACE BIOLOGICAL EXPERIMENTS****Vojtovich I. D.**

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The main objectives of the experiment are the following:

- development and manufacture of monitoring systems based on the thin-film sensors;
- development and manufacture of chambers for ecobiosystems, which will be equipped with monitoring systems functioning in microgravity.

The experiment will include a study of thin-film resistance thermometers based on the high-purity

films, as well as a study of gaseous sensors based on the thin-film technology. The proposed electronic and program support of the sensor complex provides a means for «operator — monitoring system» dialogue, as well as data processing and displaying.

Application of monitoring systems, which are based on the thin-film sensors, will be one of the methods of monitoring and maintaining the optimal environmental parameters during the technological and biological experiments on board the space station.

«Biosorbent» Experiment

**BIOSPECIFIC CARBON SORBENTS AND THEIR APPLICATION
FOR MEDICINE AND BIOTECHNOLOGY****Bakalinskaya O. N.**

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The purpose of the experiment is to study the degree of affinity of biospecific sorbents on the base of granular and filament carbon matrices.

The main objective is to study the affinity of a set of sorbents for evaluation of their effectiveness against antibodies, free haemoglobin, and lipoproteins from biologic fluids (blood plasma, blood replacements, and model liquids).

These results will form the base of a new treatment procedure of the efferent type, namely, ex-

tracorporal detoxification of patients after long-term space flight (raising the titre of IgG, free haemoglobin, lipoproteins of low density, etc.).

The results could be used in biotechnology for affine isolation of biological substances under microgravity. The «affine sorbent — biological liquid» systems will be studied in microcolumn flow experiment both in gravity and microgravity. The kinetic study of titre variation of metabolites in the liquid phase will be carried out.