

## **Multispectral Remote Sensing of the Earth with Space-Based Lidar.**

<sup>1</sup>PROKHOROV, A.M., <sup>2</sup>GLAZKOVA, I.A., <sup>1</sup>GOCHELASHVILY, K.S., <sup>3</sup>KHODAKOV, V.N., <sup>1</sup>KOZYREV, A.V., <sup>4</sup>KOMRAKOV, A.A., <sup>4</sup>KOSOVSKY, L.A., and <sup>1</sup>MAKARENKO, G.F. <sup>1</sup>General Physics Institute, Moscow, Russia; <sup>2</sup>Khrunichev Space Center, Moscow, Russia; <sup>3</sup>Russian Space Agency, Moscow, Russia; <sup>4</sup>Ramensky Device-Building Factory, Ramenskoe, Moscow Region, Russia.

A comparative analysis of existing and being developed space based lidar complexes of active laser sensing of the Earth is given. The advantages of lidar complexes over the opto-electronic and radar means of remote sensing of the Earth with provision for composite approach to the exploration of natural resources is given.

The space lidar project, utilizing laser and radar sources of radiation for all-weather remote sensing of the Earth will be presented.

The developed design of space lidar complex is aimed at both lasting basic research of the Earth and at obtaining commercial product - in mineral resources exploration, for stocking ecological data base, in weather forecast, in decision making with anthropogenic and natural disasters arising, and grants significant advantages in comparison with existing projects.