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Paper Session III-B - Local Space Service: A New Step in the Earth Observation

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LOCAL SPACE SERVICE - A NEW STEP IN THE EARTH OBSERVATION

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ABSTRACT

This paper is to present a new Russian space project of the Earth Monitoring - Local Space Service (LOCSS), being developed by the Association for the Advancement of Space Science and Technology in cooperation with a number of leading space companies and agencies.

The LOCSS project is a combination of the methodological approaches and technical facilities with a main goal to provide direct personal access to various space-borne information for the wide society of users.

The main LOCSS peculiarities are as follows

- Usage of the deep adaptive data compression, provided by onboard satellite equipment
- Transmission of the information via the low data rate radio channel
- Data reception by the personal station equipped with small size antennae (ab. 1.2 m) connected to the personal computer
- Quick-look, archiving and processing of the data in accordance with user's requirements.

Firstly LOCSS is considered for the following applications

- Provision of the real-time direct access to the high-resolution data of the satellite-based operative systems for the Earth and atmosphere imaging in the visible and near-visible spectral ranges.
- Downlinking of the true-color Earth image covering area of the direct radiovisibility with high ground resolution.

LOCSS system general structure and strategy of development are considered. Particular interest is paid to principal technical performances and solutions of the LOCSS pilot experiment based on the nominal Russian "Resurs-O" spacecraft which is planned for launch in the early 1996.

The LOCSS project being presented should be of the particular interest for both the wide society of regional users and manufacturers of space facilities.