

The multispectral scanner for a geostationary hydro-meteorologic complex «ELEKTRO-L»

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The geostationary satellite systems are recognized to be an integral part of the world meteorological system. Being deployed in many countries (GOES, METEOSAT, INSAT, GMS, FY-2) they provide global observations of the cloudage and the Earth's temperature dynamics within the limits of the full disk with periodicity of 30-60 minutes. Russia has no such regular system in its disposal up till now. Meanwhile the NPO Lavochkin is making great efforts aimed at the creation of such a system on the basis of the «Elektro-L» satellite, for which the multi - spectral scanner MSU-GS has been developed by the FSUE «RISDE». The performance characteristics of the MSU-GS device are completely compatible with modern requirements and even surpass foreign analogues in a number of parameters. The high performance attributes of the device have been achieved due to application of new technologies - multi-element linear receivers (96 elements - in the IR and TIR channels and 6000 elements in VIS channels). It was for the first time that the separate layout of optical arrangements for VIS and TIR ranges has been used in such class of the technology, that allows to improve the device reliability. A radiant refrigerator shall be used for cooling the IR receivers. Getting of 10 full frames takes 8 min. Periodicity of shooting – 30 min. Two sets of the MSU-GS device are planned to be installed in the «Elektro-L» satellite.