



CGMS-39 ROSH/ROSC -WP-02

Prepared by ROSH/ROSC
Agenda Item: B.1
Discussed at Plenary Session

STATUS OF THE RUSSIAN POLAR-ORBITING SATELLITE SYSTEM

Summary and purpose of the WP

The first one in Meteor-M series of new Russian polar-orbiting meteorological satellites, Meteor-M №1 was successfully launched on September, 17, 2009. The satellite is considered as experimental. The working paper contains the satellite payload description and status.

Action proposed: none

Polar-orbiting meteorological Satellite system

According to Russian Federal Space Program 2006-2015 the polar-orbiting satellite system should consist of three hydrometeorological and oceanographical satellites.

The first one in Meteor-M series of new Russian polar-orbiting meteorological satellites, Meteor-M №1 was successfully launched on September, 17, 2009 from Baikonur. It is now on a sun-synchronous orbit (820 km, equator crossing time ~ 9h:30min, inclination 98,79). The satellite is considered as experimental.

The next one (Meteor-M №2) is about to be launched in 2012. The oceanographical satellite Meteor-M №3 is scheduled for 2015.

Payload of Meteor-M №1 is described below:

- Scanning radiometer MSU-MR(low-resolution multichannel scanning unit, 6 channels, VIS & IR);

- Visible spectrum scanning imager KMSS (3 cameras with 3 channels each, spatial resolution 50 and 100m);

- X-band side looking radar Severjanin (with 500 and 1000 m resolution);

- Microwave imager-sounder MTVZA-GY (module for temperature and humidity sounding of the atmosphere, 26 channels, 10.6-183 GHz)

- Heliogeophysical instrument collection GGAK-M;

- Data collection system.

Meteor-M №1 has three downlink radio lines:

- 2-channel SHF-band radio link (8.192 GHz and 8.320 GHz) with 122.88 Mbps data transmission rate;

- UHF-band radio link (1.7 GHz) with 665.4 Kbps data transmission rate;

- VHF-band radio link (137 MHz) with 80 Kbps transmission rate (LRPT data transmission).

Meteor-M №1 data are used by Roshydromet with limitations due to some instrument's failures. All these issues are to be fixed for the Meteor-M №2 mission.