

RadioAstron Monthly Notices
April 2004 – August 2004

1. New updated version of Technical Specifications (TS) for RadioAstron mission was agreed between all participating institutions in Russia. The document was approved and signed by the President of Russian Academy of science (Yu.S.Osipov) and by the Head of Russian Space Agency (A.N.Perminov) on August 18 2004. All mission parameters presented in the Description of RadioAstron project (www.asc.rssi.ru/radioastron/description/intro_eng.htm) were corrected in accordance with the TS.
 2. Technical documentation for the new spacecraft bus was developed, and the mass-dimension model of the bus was manufactured at LA.
 3. Mass-dimension model of the bus was assembled with the SRT and with the mass thruster for vibration tests at LA..
 4. Broad-band feed for the on-board MFS receiver (18-25 GHz) was manufactured, and it is under tests in laboratory.
 5. Development of the on-board H-maser frequency standard was started at the “VREMYA-CH”-firm in Niznii Novgorod under the contract with the ASC.
 6. Flight models of the 6-cm receiver (with the test set and power supply units) were shipped to ASTRON/JIVE for inspection via the ESA office in Moscow.
 7. Engineering model of 22-GHz receiver was manufactured and it is under tests. The receiver incorporates LNA produced by NRAO.
 8. Results of Pushchino radio astronomical tests were analyzed, and the report has been issued. The report is available in full content in Russian language at the ASC web-site <http://www.asc.rssi.ru/radioastron/documents/ntorapsrt.pdf>
 9. Engineering models of the science payload were returned to ASC for extra testing based on the recommendation obtained after Pushchino tests. The tests have been started.
 10. Disk-based recorder (RDR) was manufactured and tested. RDR provides all RadioAstron modes; currently it uses S2 format.
 11. One baseline correlator was successfully tested in correlation of the data from Pushchino tests.
 12. Algorithms of MFS data processing were developed and tested.
 13. The meeting with the representatives of NASA headquarters was held in Moscow on June 8 2004. It was devoted to the discussions on NASA funding for tracking station and correlators. Plan for to solve the remaining questions was constructed/
 14. A bright flare-up of emission (>1000 Jy) was found in OH-maser source during tests of 18-cm receiver in observations with Kalyazin 64-m radio telescope (August 2004). It is known that the flare was started about three years ago. The object will be very prospective for study with RadioAstron if it remains so bright for the next several years.
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Appendix
(The list of used acronyms)

ASC	Astro Space Center of Lebedev Physical Institute
Cold Plate	cooled LNAs and antenna feed
DC	hermetic device container (part of payload); it contains Formatter, Rb oscillators, synthesizer, control unit and is placed under dish
DM	Device Module = DC + H-maser
EGSE	Electronic Ground Support Equipment
Electronic Complex	– all SRT electronics
EM	Engineering Model
FC	Focal Container – hermetic package with the scientific payload; it contains receivers, microwave synthesizer, control unit and is placed in focal site of dish
FM	Focal Module = Focal Container+Cold Plate
LA	Lavochkin Association
OHCFS-SRT	Space Radio Telescope On-board Heterodyne and Clock Frequency Synthesizer set
OHFS-SRT	Space Radio Telescope On-board Hydrogen Frequency Standard
ORFS-SRT	Space Radio Telescope On-board Rubidium Frequency Standard
Service Module,	Spacecraft bus – spacecraft itself (without payload).
SRT	Space Radio Telescope (all scientific payload including 10-m dish)
TMS	Spacecraft Telemetry System (technical)
TVT	Thermo-Vacuum Tests
VIRK	Scientific high rate (up to 2x72 Mbit/s) radio complex, including transponder
ZBIT	Zero Baseline Interferometer Tests (ZBIT)