MINUTES
of the RadioAstron Teleconference on March 16, 2011

N. Kardashev chaired the teleconference.

The agenda of the teleconference and the list of participants are attached to the Minutes.

N. Kardashev informed the participants on the progress in mission development.

- He confirmed the priority status of the mission with the launch date scheduled for late June 2011. He also explained the time-line of current events: important tests of SRT functioning in the large vacuum chamber in the Peresvet town near Moscow were completed, and the equipment will be returned to LA in a week for final tests on EMC and control zero baseline interferometric measurements.
- N. Kardashev expressed his gratitude to the observatory directors who have provided formal letters of intention to support RadioAstron fringe search program.

V. Stepanyants make short presentation on tracking and orbit determination.

- He described radio system of orbit measurements and mentioned also the laser range measurements. The later technique will utilize 100-element retroreflector installed on-board of the spacecraft. Laser measurements will be carried out in cooperation with the international service.
- Range-rate measurements accumulated at the TS via VIRK communication line also will be utilized in orbit determination and reconstruction process.
- Detailed telemetry information on executed sequence of events (such as unloading gyroscopes) will be carefully examined to take into account non-gravitational effects.
- Optical measurements of the SC trajectory on the sky are also planned to be conducted in Russia and abroad.
- The following accuracy in SC position along the orbit may be achieved with the above mentioned techniques: one month prediction: 1000 m; one week prediction 300 m; reconstructed orbit 50 m.
- Some discussions on the necessary accuracy took place (L. Gurvits, K. Kellermann, E. Fomalont, V. Stepanyants, L. Kogan).

Tracking Station in South Africa and in New Zeland.

- **S. Gulyaev** informed the participants about the status of 12-m antenna which is fully operational now and is ready to be used as a TS for RadioAstron. He also reported on the continuing talks with TELECOM representatives about getting permission for transmission at 7.2 GHz with positive trends.

- He also said that he has support from the administration of Auckland University and from the New Zeeland Ministry of Science and Technology to start formal contacts with the RSA.

- **S. Likhachev** informed the participants about the status of TS in South Africa; the question is still in negotiation state, but now technical details are to be discussed.

Correlation of data outside of Russia was discussed by S. Likhachev, J. Romney, A. Lobanov and others. S. Likhachev informed the participants that at present the ASC correlator team is busy with the development of the software to treat simulated space-ground VLBI data by the ASC correlator; the task is expected to be solved during the month, and then

all questions concerning formats and auxiliary files (correlator logs, time-correction file, and reconstructed orbit presentation) will be considered. Corresponding AIs were conserved.

Information on VLBI test observations at 18 cm in RadioAstron mode.

Y.Y. Kovalev informed the participants on the 10-hours observations conducted on February 2 with 5 radio telescopes (Medicina, Svetloe, Badary, Zelenchuk, and Pushchino) at 18 cm in 2*16 MHz band (USB / LSB) in two polarizations (LCP / RCP). The observing program included pulsars (B0329+54, B0531+25), quasars (3C 273, 3C 279 and 3C 286), and OH-maser sources (W3OH, W75N). Recording format was Mk5 at all stations but Puschino where we used the RDR format with one-bit sampling. The fringes were found for all sources. Data correlation is being continued. Y.Y. Kovalev answered questions explaining some details of observing configurations and data correlation.

Preparation to provide visit to the launch site.

N. Kardashev reminded the participants to send their willing to visit the launch site to M. Lisakov not later than March 20 2011. Y.Y. Kovalev gave necessary clarifications to the subject.
K. Kellermann open discussion on the possible workshop connected with the launch date.

New action items were rewritten from the old list.

- To provide description of the formats of the reconstructed orbit — ASC-correlator
- To provide description of the “time-correction file” for RadioAstron — ASC-correlator
- To continue working on the ASC/MPIfR MOU in the order of signing it — A.Zensus
- To provide a letter from NZ Ministry to RSA — S.Gulyaev

Next teleconference to be held in the period from April 26 to 28 2011.

Agenda of the RadioAstron teleconference
March 16, 2011

	Corrections to the Agenda	N. Kardashev
1	Present status of the Mission (an update of the launch schedule)	N. Kardashev
2	Tests of the science payload together with the SC bus	V. Andreyanov / N. Babakin
3	Tracking and orbit determination	V. Stepanyants
4	Tracking stations in South Africa and in New Zeland	S. Likhachev / S. Gulyaev
5	An update on the ASC-NRAO-MPIfR collaboration on correlation	J. Romney / A. Zensus / S. Likhachev
6	VLBI test in RA-mode at 18 cm on February 2	Y.Y.Kovalev
7	Preparations to provide visits to the launch site	N.Kardashev
8	Review of action items and new AI	M.Popov

Chairman: N. Kardashev

List of participants:

Bartel N.	York Univ., Canada
Finkelshtein A.	IAA, Russia
Fomalont E.	NRAO USA
Giovannini G.	IRA/INAF, Italy
Gulyaev S.	Auckland Univ., New Zeland
Gurvits L.	JIVE, The Netherlands
Kardashev N.	ASC, Russia
Kellermann K.	NRAO, USA
Kogan L.	NRAO, USA
Kovalev Y.Y.	ASC, Russia
Langston G.	NRAO, USA
Likhahev S.F.	ASC, Russia
Lobanov A.	MPIfR, Germany
Popov M.	ASC, Russia
Romney J.	NRAO, USA