

## The RadioAstron AO-2 open science program starts in July 2014

The first year of the RadioAstron open science program AO-1 is coming to its end in June 2014. Astro Space Center and its Russian and international partners have successfully performed science experiments within all approved AO-1 projects (see the list of projects in the RadioAstron Newsletter No. 20). First results of the AO-1 program will be presented by science teams at the COSPAR-2014 General Assembly in Moscow on 7 and 8 August 2014, see the program of the event: [https://www.cospas-assembly.org/admin/session\\_cospas.php?session=430](https://www.cospas-assembly.org/admin/session_cospas.php?session=430)

Starting from July 2014, the RadioAstron mission will move into the second year of its open program, AO-2 observations will continue until June 2015. The second RadioAstron Announcement of Opportunity has invited proposals of the following two types: the “Key Science Program” (KSP) and “General Observing Time” (GOT). See for details the full set of announcement documents in

<http://www.asc.rssi.ru/radioastron/ao-2/ao2.html>.

All proposals were evaluated by the RadioAstron Program Evaluation Committee (RPEC) which was appointed by the RadioAstron International Science Council (RISC). Results of the evaluation were approved by the RadioAstron project director. RPEC members for AO-2 were Dave Jauncey (CSIRO, Australia), Tim Pearson (Caltech, USA), Misha Popov (ASC Lebedev, Russia), Richard Porcas (chair, MPIfR, Germany), Elaine Sadler (U. Sydney, Australia), and Mark Reid (Harvard-Smithsonian CfA, USA). Below we list 16 accepted projects which have requested observations with RadioAstron during the AO-2 period in their submission order:

- KSP: “Substructure in Pulsar Scattering Disks”, PI: Carl Gwinn (UCSB, USA);
- GOT: “Zooming into the high-redshift Universe”, PI: Leonid Gurvits (JIVE, the Netherlands);
- GOT: “Space VLBI study of the inner region of the BL Lac source Markarian 501”, PI: Gabriele Giovannini (IRA INAF, Italy);
- GOT: “Crab Pulsar Giant Pulse Study with RadioAstron”, PI: Alexey Rudnitskiy (ASC Lebedev, Russia);
- GOT: “RadioAstron-VLBI observations: Study of Local Scattering Material”, PI: Tatiana Smirnova (PRAO ASC Lebedev, Russia);
- GOT: “Substructure in the Scattering Disk of SgrA\*”, Michael Johnson (Harvard-Smithsonian Center for Astrophysics, USA);
- GOT: “Imaging of micro-structures of OH and H<sub>2</sub>O masers with ultimate angular resolution”, PI: Hiroshi Imai (Kagoshima University, Japan);
- GOT: “RadioAstron Orbital Precession Imaging of Young AGN Jets”, PI: Matthew Lister (Purdue University, USA);
- KSP: “Probing the innermost regions of AGN jets and their magnetic fields”, PI: Andrei Lobanov (MPIfR, Germany);
- GOT: “Structure and physics of compact jets in AGN”, PI: Manel Perucho (Valencia University, Spain);

- KSP: “Space VLBI Survey of AGN at the Highest Angular Resolutions”, PI: Yuri Kovalev (ASC Lebedev, Russia);
- GOT: “Search for new water and hydroxyl maser sources with spots of ultra-small angular size”, PI: Andrey Sobolev (Ural Federal University, Russia);
- KSP: “RadioAstron hydrogen maser gravitational redshift experiment”, PI: Valentin Rudenko (Lomonosov Moscow State University, Russia);
- GOT: “Space-VLBI investigation of the core shift effect in the blazar 3C 454.3”, PI: Kirill Sokolovsky (ASC Lebedev, Russia);
- GOT: “H<sub>2</sub>O Masers and Protoplanetary Disk Dynamics in IC 1396N”, PI: Stan Kurtz (National Mexico University, Mexico);
- GOT: “Fine-structure of the radio cores in 3C 273 and 3C 279 at ultra-high resolution”, PI: Tuomas Savolainen (Aalto University, Finland).

Following recommendations of the RPEC, the RadioAstron mission also plans to organize first test observations of microquasars (PI: Evgeniya Kravchenko, ASC Lebedev). Among the approved projects, two got rank ‘A’ (the highest priority), eight — rank ‘B’, and six — rank ‘C’. A total of about 170 co-investigators represent 20 countries. The largest number of co-Is are from Russia, other countries with a high number of co-investigators are the USA, Germany, Australia, the Netherlands, Spain, UK, Italy.

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The RadioAstron project is led by the Astro Space Center of the Lebedev Physical Institute of the Russian Academy of Sciences and the Lavochkin Scientific and Production Association under a contract with the Russian Federal Space Agency, in collaboration with partner organizations in Russia and other countries.

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