

# Svetloe Radio Astronomical Observatory

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## Abstract

This report provides information about changes in the Svetloe Radio Astronomy Observatory (SvRAO) status in period spanning after the last IVS report. The activities during 2004, the current status, and future plans are described. During 2004 a number of maintenance and upgrade activities were performed at SvRAO. Mark 5A and S2-DAS are available at SvRAO for IVS programs.

## 1. Introduction

Svetloe Radio Astronomical Observatory (SvRAO) was founded by the Institute of Applied Astronomy (IAA) as the first station of Russian VLBI network QUASAR. VLBI network QUASAR has been described in [1]. The second station of network QUASAR “Zelenchukskaya” has been accepted as an IVS Network Station by the IVS Directing Board, at its meeting on October 8, 2004.

Sponsoring organization of the project is Russian Academy of Sciences. SvRAO is located at the Karelian Neck near Svetloe village about 100 km north from St. Petersburg. The basic instruments of the observatory are 32-m radio telescope RTF-32 and technical systems provided realization of VLBI observations.

During last year Svetloe observatory regularly participated in various radio astronomy programs including VLBI and single dish observations of quasars, Sun and planets.

## 2. Participation in IVS Observing Programs

Table 1 summarizes the sessions performed during 2004.

Table 1. The list of IVS sessions observed at SvRAO in 2004.

| Month     | IVS-R4 | IVS-T2 | EUROPE | IVS-E3 | NORD | Intensives |
|-----------|--------|--------|--------|--------|------|------------|
| January   | 1      | 1      |        |        |      |            |
| February  | 2      |        |        |        |      |            |
| March     | 2      |        |        |        | 1    |            |
| April     | 3      |        | 1      |        |      |            |
| May       | 2      | 1      |        | 1      |      |            |
| June      | 2      | 1      |        | 1      |      |            |
| July      | 2      | 1      | 1      | 1      |      |            |
| August    | 3      | 1      |        | 1      |      |            |
| September | 5      | 1      | 1      | 1      |      |            |
| October   | 2      | 1      |        | 1      |      |            |
| November  | 2      | 1      |        | 1      |      | 5          |
| December  | 2      | 1      | 1      | 1      |      | 6          |
| Total     | 28     | 9      | 4      | 8      | 1    | 11         |



Figure 1. Upgraded control room of the radio telescope after installation of Mark 5 and S2-DAS systems.

### 3. Collocation with GPS



Figure 2. GPS receiver Trimble 4000SST was replaced with Leica SR520 with choke ring antenna LEIAT 504 on Dec 1, 2004.

#### 4. Outlook

Our plans for the coming year are the following.

- To put into operation the optical fiber link for remote control.
- Participation in 63 IVS R4, R1, T2, EURO and E3 observing sessions.
- Geodetic survey for accurate tie between the radio telescope and the SVTL GPS marker.

#### References

- [1] Finkelstein A., Ipatov A., Smolentsev S. Radio Astronomy Observatories Svetloe, Zelenchukskaya and Badary of VLBI Network QUASAR. In: IVS 2004 General Meeting Proc., eds. N. R. Vandenberg, K. D. Baver, NASA/CP-2004-212255, 2004. P. 161–165.