



SURA-STEREO experiments: first results and planning investigations

Yu. V. Tokarev (1), G.P.Komrakov (1), J.-L. Bougeret (2), **M. L. Kaiser** (3), and K.Goetz (4)

(1) Radiophysical Research Institute, N.Novgorod, 603950, Russia, (2) LESIA, Observatoire de Paris, Meudon, France, (3) NASA/Goddard Space Flight Center, Greenbelt, MD 20771, USA (Michael.L.Kaiser@gssc.nasa.gov), (4) University of Minnesota, Minneapolis, MN 55455, USA

(yt@nirfi.sci-nnov.ru Fax: 7 8312 365850 Phone: 7 8312 365850)

Results of receiving of the SURA radar signals by the STEREO WAVES are presented. In the first stage of the STEREO mission (November-December 2006) both AHEAD and BEHIND spacecraft were largely inaccessible to SURA radar due to their low altitude over horizon and ionosphere conditions at the SURA site (46E, 56N). Nevertheless transmitting signals at 9025 kHz has been successfully received during the perigee of AHEAD on November 17, 2006. We intend to use the data obtained for the calibration of the BEHIND receiver.

New SURA-STEREO experiments are planned since the BEHIND spacecraft will be within range of SURA starting around January 20, 2007 up to the middle of March, 2007 when the SURA radar signal will be too small as the spacecraft moves out of range (>1000 Re from the Earth) and high levels of decametric cosmic background.

In that period we plan to carry out solar wind, transition region and magnetotail plasma investigations by radio sounding technique. In transmitting sessions, the S/WAVES receiver will be commanded to direction finding (DF) mode with a fixed frequency at one of the transmitter standard frequencies in range 4.5-9.3 MHz. Scintillation spectra and polarization of the radar emission will be studied. This is a continuation of our previous SURA-WIND experiments in the new solar activity cycle. Obtained results will be presented.

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