

Continued Operation of Nobeyama Radioheliograph by the International Consortium (ICCON)

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Nobeyama Radioheliograph (NoRH) is a radio interferometer specially designed to observe the full disk of the Sun at 17 and 34 GHz. Eighty-four antennas with a diameter of 80 cm were installed along a T-shape baseline (North - South: 250 m, East - West: 500 m). The spatial resolution is about 10 arcseconds and 5 arcseconds in 17 GHz and 34 GHz, respectively. The time resolution of NoRH is typically 1 second and 0.1 second for the event mode. NoRH continuously observes the full sun for about eight hours (22:45 - 6:30 UT) every day. The system has been quite stable and NoRH data are available in the period more than 99 % out of the total possible operational window. The National Astronomical Observatory of Japan (NAOJ) has successfully operated NoRH during these two decades. From April 2015, the Solar-Terrestrial Environment Laboratory (now the Institute for Space-Earth Environmental Research), Nagoya University started the operation of NoRH as a representative of the International Consortium for the Continued Operation of Nobeyama Radioheliograph (ICCON; <http://hinode.stelab.nagoya-u.ac.jp/ICCON/>). The current ICCON representatives are N. Gopalswamy (NASA), Y. Yan (NAOC), K. S. Cho (KASI), M. Ishii (NICT), K. Shibasaki (Nagoya University and Solar Physics Laboratory) and S. Masuda (Nagoya University). In addition to the core members of this consortium, about 30 researchers collaborate the operation of NoRH. Among them, one chief observer is assigned to check the health of the instrument/computers and to verify the data quality every day. These daily tasks can be done via internet from a remote site. This system also works very well for the first one year. NoRH data are automatically transferred from the observational site (Nobeyama) to Solar Data Analysis System (SDAS; http://hinode.nao.ac.jp/SDAS/index_e.shtml) of NAOJ at Mitaka, and then all of them are automatically mirrored to Hinode Science Center at Nagoya (<http://hinode.stelab.nagoya-u.ac.jp/index.shtml.en>). Any researcher registered in either system can access all of the NoRH data. The software for the data analysis is supplied as a part of the solarsoft (IDL-based software system mainly maintained by Lockheed Martin Solar and Astrophysics Laboratory) and distributed via internet.

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