

KVN Observation of Microquasars Simultaneously at K, Q, W and D Bands

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The Korea VLBI Network (KVN) is operated by the Korea Astronomy and Space Science Institute. The KVN consists of three 21-m antennas and, in each antenna, the multi-channel receiver system is equipped. The baseline length ranges from 305 to 476 km. The KVN can simultaneously measure K, Q, W and D bands, currently at the rate up to 8 Gbps. One of the advantageous KVN facilities is its fast response to the rapid transients. The microquasar, jet-ejecting X-ray binary system, is one of such targets. We present a recent activity of the KVN observations of microquasars. In the KVN VLBI observations, the rapid, intraday variability and associated jet imaging of a few microquasars have been obtained. The KVN has been also operated for the single-dish observations, independently in each antenna. In the KVN single-dish observations of microquasars, both long-term monitorings of the flux density as well as polarization have been carried out to obtain the variability characteristics of microquasars in daily-averaged or shorter time-scales. The operation at 32 Gbps or higher rate is also being tested, and more microquasars with a lower flux density would be observed in the near future. Furthermore, the on-going Extended KVN Project to install three more antennas, together with a high rate of 64 to 128 Gbps, would improve the sensitivity to imaging microquasars.