

Development of DAM Interferometer Network and Observations of Black Holes in Andromeda Nebula

Hiroshi Oya[1], Masahide Iizima[2]

[1] Space Commu. Fukui Univ., [2] Geophysical Inst., Tohoku Univ.

By introducing two new techniques to the already developed 100km range long baseline interferometer system at Tohoku University, a new interferometer network has been achieved for observations of the decameter radio source positions with accuracy of 0.1 arc second. The newly introduced techniques consist of i) remote phase control of the observation signal at 455kHz band and ii) phase control of the observation signal at the back end frequency range, for utilization of signals from all of possible baseline combinations; this utilization extremely improves the S/N ratio of the observation signal in the analog stage before A-D transformation. Using this system it becomes possible to search for the pulses from black hole group at the center part of Andromeda-nebula.

By introducing two new techniques to the already developed 100km range long baseline interferometer system at Tohoku University, a new interferometer network has been achieved for observations of the decameter radio source positions with accuracy of 0.1 arc second. The newly introduced techniques consist of i) remote phase control of the observation signal at 455kHz band and ii) phase control of the observation signal at the back end frequency range, for utilization of signals from all of possible baseline combinations; this utilization extremely improves the S/N ratio of the observation signal in the analog stage before A-D transformation. Using this system it becomes possible to search for the pulses from black hole group at the center part of Andromeda-nebula.