

[P-113/ID-1-7] Development of KVN 129 GHz SIS Mixer

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As a frontend for the planned 129 GHz observation band of the Korean VLBI Network (KVN), a superconducting SIS mixer has been chosen due to its higher sensitivity over the competing cryogenic HFET amplifier developed so far at 100 GHz band. We report the design characteristics of the superconducting mixer chip for this band, primarily focused on its RF properties.

[P-114/ID-1-8] KVN single dish observation mode for continuum sources

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We simulate KVN single dish cross-scan observation mode for continuum source. The cross-scan observation mode is indispensable for continuum source observation. The major advantage of this mode is that it can obtain flux of the sources from the baseline fitting by subtracting linearly increasing system temperature. This observation mode can also attain pointing accuracy of the antenna through observed flux. We will perform KVN calibrator survey using this cross-scan observation mode.