

Post-correlation polarimetric conversion: advantages for calibration and imaging

Thursday, 28 October 2021 16:00 (0:15)

Content

The calibration and imaging of VLBI observations in circular polarization basis is preferred, since the parallactic-angle correction reduced to a simple deterministic phase correction that commutes with all antenna-gain corrections. Circular polarization has indeed been the polarimetry basis in classical VLBI observations. Hence, conversion of the linear-polarization VGOS visibilities into a pure circular basis allows for a direct application of legacy Geodesy and Astronomy algorithms to VGOS observations.

Here we show how the “PolConvert” algorithm can be used to derive the cross-polarization gains of all VGOS antennas and use it to convert the DiFX products to circular basis. We also show preliminary broad-band fringe-fitting results and image reconstructions obtained from EU-VGOS observations.

Primary author(s) : Dr. MARTI-VIDAL, Ivan (University of Valencia)

Co-author(s) : GONZALEZ GARCIA, JAVIER (IGN - Observatorio de Yebes)

Presenter(s) : Dr. MARTI-VIDAL, Ivan (University of Valencia); GONZALEZ GARCIA, JAVIER (IGN - Observatorio de Yebes)

Session Classification : Correlation technology

Track Classification : Technology