



Aperture Synthesis Imaging at the EISCAT Svalbard radar

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The EISCAT incoherent radar on Svalbard has two dishes. In addition to this two dishes three smaller passive array antennas were built to attempt to implement radar aperture synthesis imaging. Limited to measurements of coherent backscatter the primary science goal of this new receiver system is to study so called naturally enhanced ion acoustic lines.

In order to compare radar aperture synthesis images with optical data phase calibration of the interferometer system is needed. We present the phase calibration of the Svalbard interferometer system including the passive array antennas. The calibration was done using optical signatures of satellite transits and the coherent backscatter of the satellites. The optical signature provide accurate position of the satellites.

Furthermore we will present sudo-3D aperture synthesis radar images from first observations of satellites conducted with this system.