CDCS CENTER FOR DATA AND COMPUTING IN NATURAL SCIENCES

OPENING SYMPOSIUM 2022









Type: Poster

Deep learning-based imaging in radio interferometry

The cleaning of data measured with radio interferometers is an essential task for the scientific use of radio interferometric images. Established methods are often time consuming and require expert knowledge. To generate reproducible images on small time scales, we have developed a prototype deep learning-based reconstruction method. This method takes the incomplete information in Fourier space as input and restores the missing information using convolutional layers.

The architecture applied is inspired by super-resolution models that take advantage of residual learning. Simulated radio galaxies consisting of Gaussian components are used to train the deep learning model. The poster gives an overview of the current status of the project and the reconstruction performance will be evaluated using various measures

Primary authors: GEYER, Felix (PhD student, TU Dortmund University, WG Elsaesser); SCHMIDT, Kevin (TU Dortmund)

Presenter: SCHMIDT, Kevin (TU Dortmund)

Session Classification: Poster session with buffet

Track Classification: CDL1 (Astro- and Particle Physics)