

NGCII Detector Controller synchronization using White Rabbit

Wednesday 3 December 2025 11:45 (15 minutes)

Accurate synchronization between detector controllers is important for low-noise readout in focal-plane arrays used for astronomical observations. ESO's MicroTCA based detector controller (NGCII) uses White Rabbit to enable sub-nanosecond timing and timestamp distribution in a PTP environment. This allows us to accurately synchronize the main sequencer clock from which all detector control signal timing is derived. In this presentation, we describe the method used to integrate White Rabbit into the NGCII architecture and show first lab results.

Author: SEIDEL, Matthias (European Southern Observatory (ESO))

Co-authors: RÜDE, Alexander (European Southern Observatory (ESO)); RICHERZHAGEN, Mathias (ESO)

Presenter: SEIDEL, Matthias (European Southern Observatory (ESO))

Session Classification: Session 4