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Type: **Oral presentation (20 minute)**

# From ground characterization of the 16 H2RGs to the commissioning of the in-flight NISP Instrument of Euclid : lessons learn

*Tuesday, 12 March 2024 10:05 (25 minutes)*

The near-infrared spectrometer and photometer (NISP) focal plane, comprising 16 H2RGs and Sidecar ASICs, was successfully commissioned in the second half of 2023. Flight models of the detectors have been extensively tested on the ground during the C/D phase by NASA and the Euclid consortium, offering a good point of comparison with flight commissioning data.

The proposed presentation aims to provide lessons on characterizing and modeling the detection chain to meet performance requirements. Beyond sensitivity (QE and read noise), the science of Euclid involves in-depth knowledge of the detection chain's systematics, which are mainly determined by the correction of non-linearity and its temporal behavior due to carrier trapping and untrapping (persistence).

After presenting the Euclid NISP implementation and the characteristics measured on this subject, we'll raise a few questions about the characterization strategy to tackle this difficult subject facing future "at least than 1%" IR measurements.

### **contribution subject matter**

photometric fidelity

### **Keywords for your contribution subject matter (this will assist SOC in accurately characterizing your contribution)**

Non-linearity correction, correlated noise, IPC, Flat Filed, commissioning, persistence, reciprocity failure. H2RGs, Sidecar

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