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Euclid OU-NIR Processing Function

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Euclid is an ESA M-class mission devoted to study the dark Universe. The mission will investigate the distance-redshift relationship and the evolution of cosmic structures by measuring shapes and redshifts of galaxies and clusters of galaxies out to redshifts ~2, or equivalently to a look-back time of 10 billion years. The Euclid Science Ground Segment (SGS) is made of transnational Organization Units (OU), each corresponding to a subset of the overall Euclid Data Processing. The development of the Euclid SGS is scheduled in a series of Scientific Challenges (SCs), in which the Data Processing pipelines are tested on realistic simulations with an incremental involvement of the various OUs. In this talk, I will focus on the OU-NIR, that is the OU in charge of the reduction of the Near Infrared imaging data collected by the NISP instrument, and of the pre-processing of the spectrometer observations in collaboration with the OU-SIR.
The NIR Processing Function is composed by a main scientific reduction pipeline and a number of calibration pipelines to characterize the instrumental effects (e.g. bad pixels, dark current, flat fielding, persistence, etc.). The Science Pipeline is made of different Processing Elements dealing with the individual tasks, from acquiring raw data up to the production of fully characterized, astrometrically and photometrically calibrated images. After a description of the NIR Processing functions, I will present the current status of the development that is being tested in the SC#4,5,6 of the Euclid SGS.

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