

Euclid SGS Testing of LSST Sims

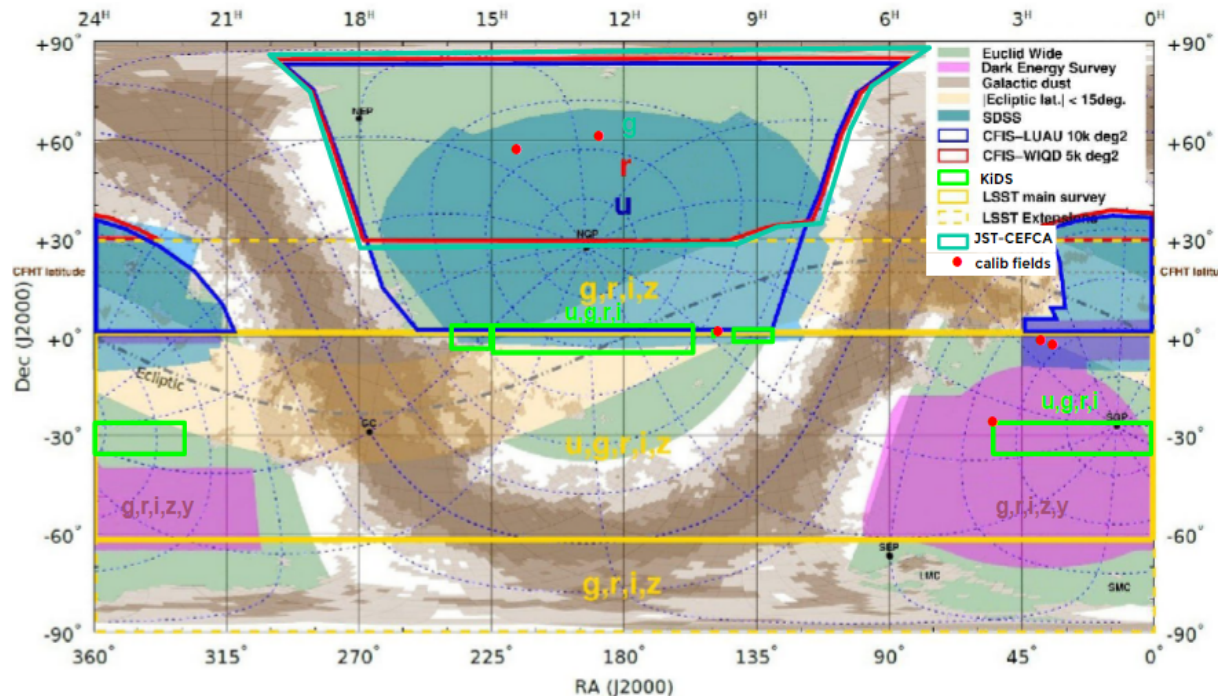
Joe Mohr
(LMU-Munich)

Euclid Surveys

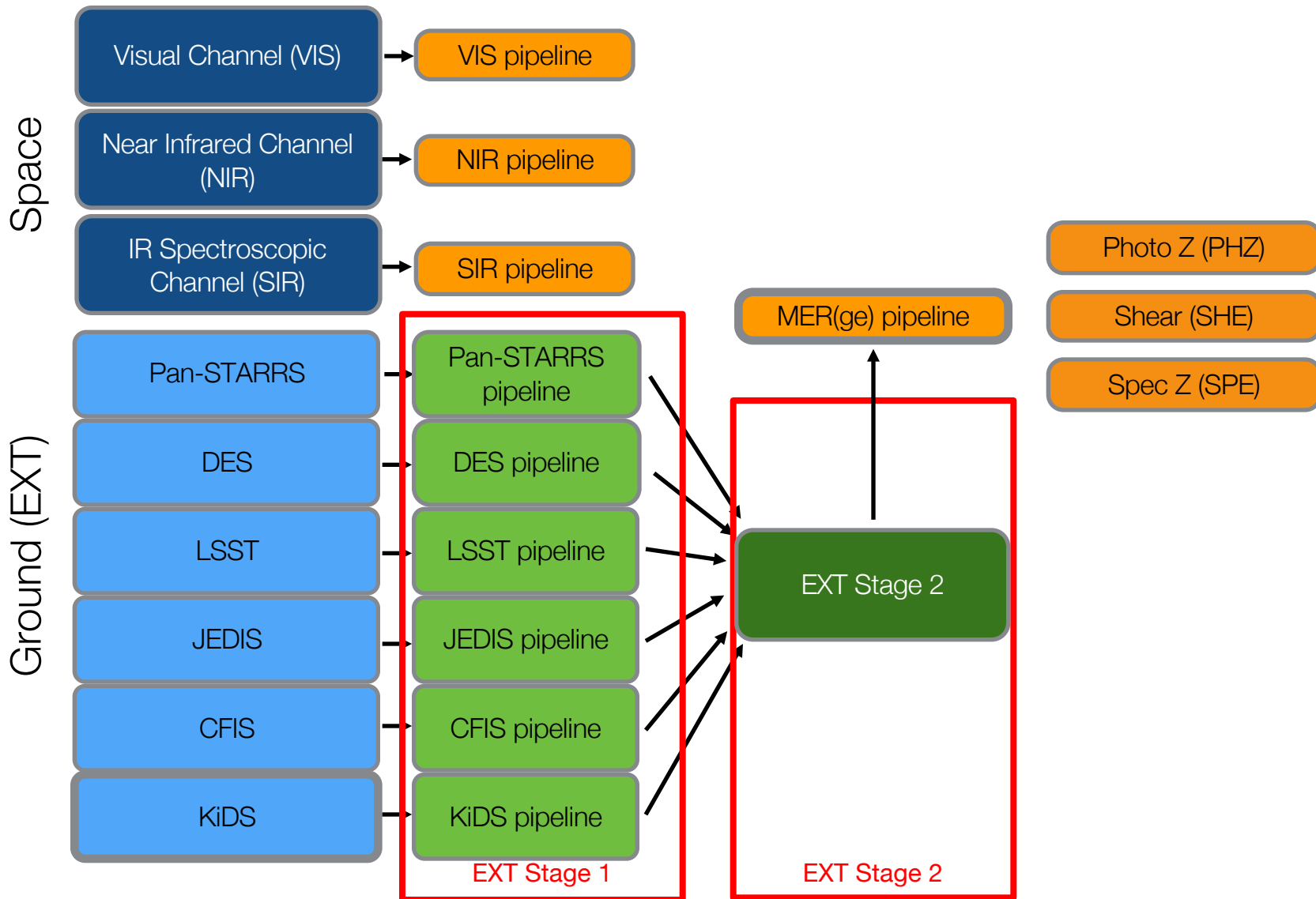
- 15000 deg² WIDE survey and 40 deg² DEEP over 6 yrs
 - VIS 0.2" imaging to 24.5 (10σ) in broad riz band
 - YJH 0.4" imaging to 24.0 (5σ point source)
 - Red/Blue grism spectra 0.9-1.8 micron, resolution~380
 - WIDE survey consists of 4 images in each band plus grism spectroscopy
 - DEEP survey visited 40x in WIDE survey mode, so 2 mag deeper
- Science goals:
 - Cosmic shear, galaxy clustering and legacy science
- Ground based multi-band photometry needed for:
 - Galaxy photo-z's and stellar colors (for PSF modeling in VIS)

Euclid Relevant Ground Based Surveys

- Many Euclid-relevant ground based surveys underway
 - Southern Celestial Hemisphere
 - DES (4500 deg² *griz*) + KiDS (400 deg² *ugri*)
 - LSST (7500+ deg² *ugriz*)
 - Northern Celestial Hemisphere
 - CFIS (7500 deg² *ur*) + Jedis-g (7500 deg² *g*) + PS2 (7500 deg² *iz*)
 - LSST (3500 deg² *griz*) (proposal planned)



EXT data flow architecture



Euclid Testing with LSST Sims

- Current Euclid data challenge tests through photo-z and shear catalog production
- APC team responsible for delivering calibrated LSST data
 - Yannick Giraud-Héraud, Rémi Fahed, Cyrille Rosset
 - Employing the LSST software, simulating a Yr1 dataset
- Calibrated LSST, DES and KiDS data flow into cataloging pipeline
 - Photometry is extracted using TPHOT with VIS prior on a VIS+YJH selected object sample
- Multiwavelength catalogs flow into photo-z pipelines

Euclid + LSST

- Joint analysis offers significant science advantages!
- There are many scientists involved in both projects
- Collaboration discussions ongoing at highest levels
- Both projects have expertise to deal with the both datasets
- Both projects ultimately release their data to the whole community
- Motivations to find a way forward together are strong