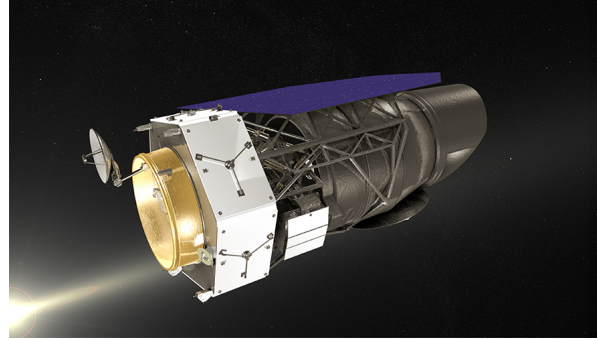
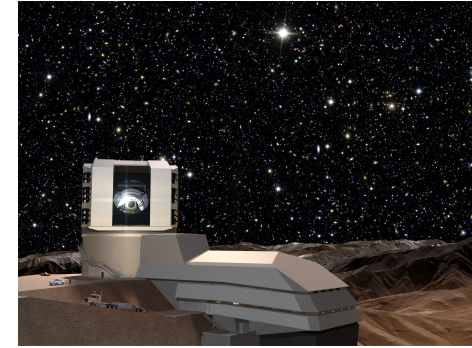


Euclid, 2023-



Roman, 2027-



Rubin/LSST, 2023-

# Joint Survey Processing – Why Now?

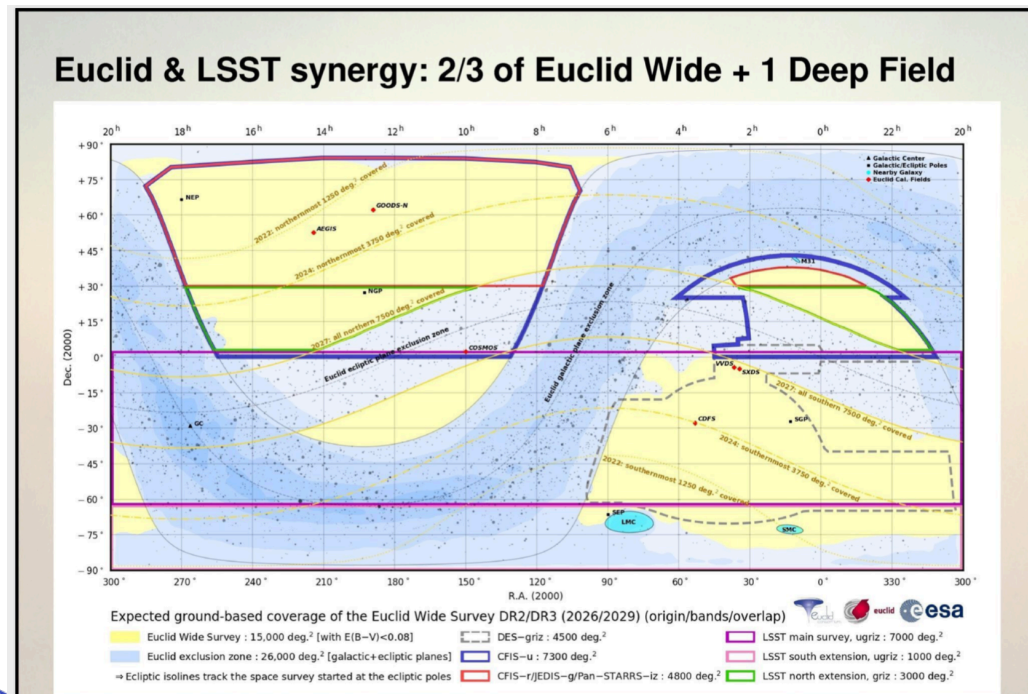
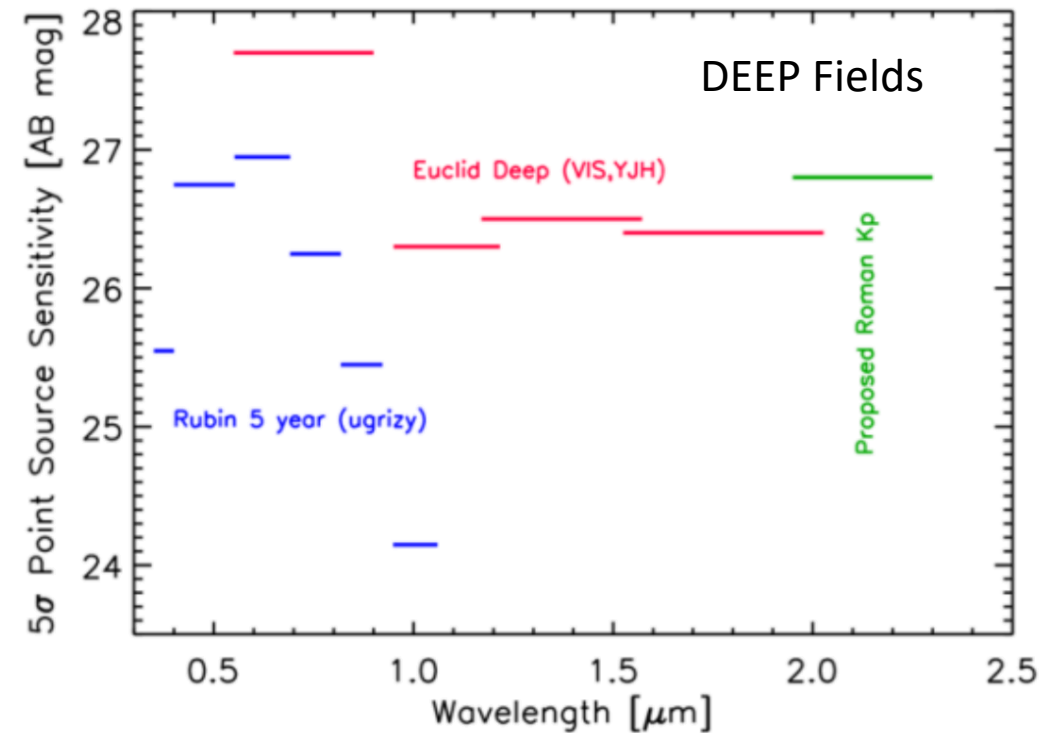
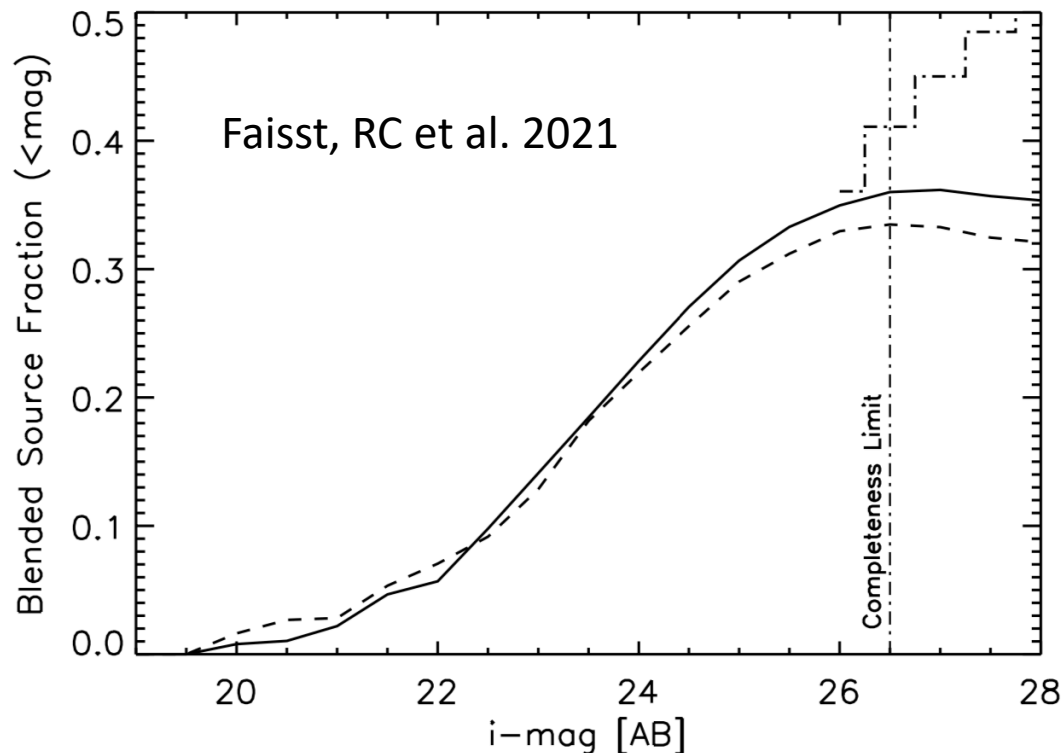


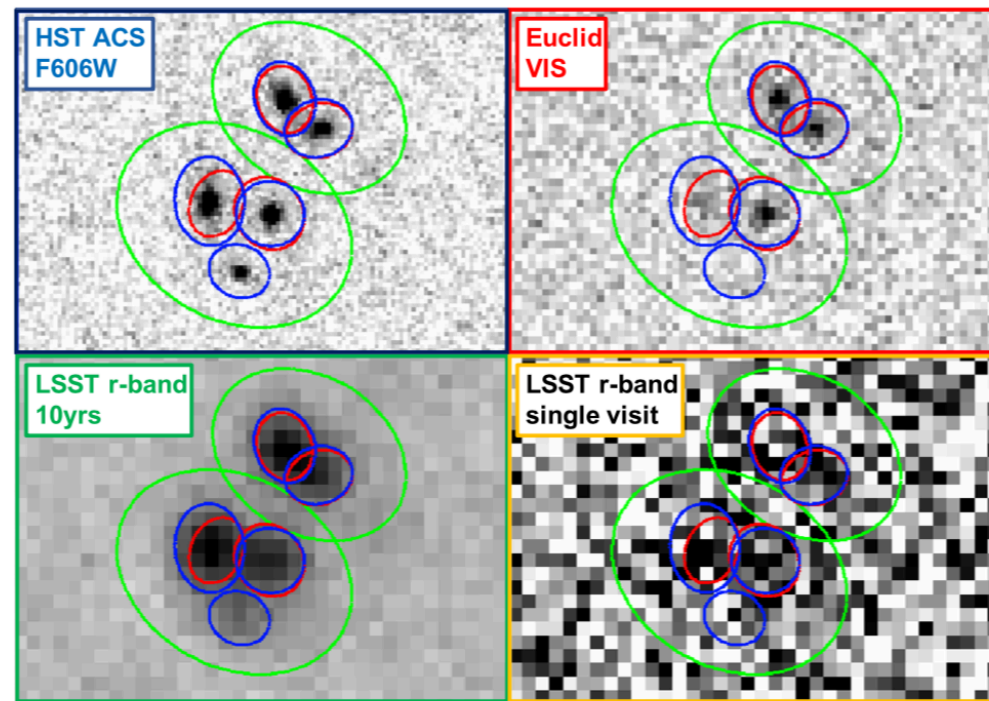
Fig from J-C. Cuillandre



# Deep: Confusion affects precision



# Wide&Deep: Mismatched isophotes affect precision



Lee & RC 2019

- Blending makes it challenging to get 5% precision photometry, at 0.8" spatial resolution in the deep fields. (Faisst et al. 2021)
- Rubin-Euclid-wide will reveal systematics for Rubin-Euclid-deep which in turn will train for Rubin-Roman.

# Where are we?

- Multi-pronged, collaborative effort (JSP Report, Rubin-Euclid DDP WG, AURA Roman-Rubin synergies group) to outline the steps needed and data products
- Prototype work using HSC-ACS (JSP papers) has highlighted limitations of cataloging software and systematics floor
  - Precision cataloging software needs to be written matched with requirements
- Strawman plan for data products exist, needs refinement for other areas of astronomy (e.g. SSOs, transients)
  - There will be a larger community workshop in a few months
- Databases and data transfer infrastructure to compute nodes needs to be set up soon in conjunction with projects since data-taking is a ~year away
- Computing for JSP can happen at DOE centers (billion CPU hours for working with coadds) with interactive work farmed off to local clusters/OSG

