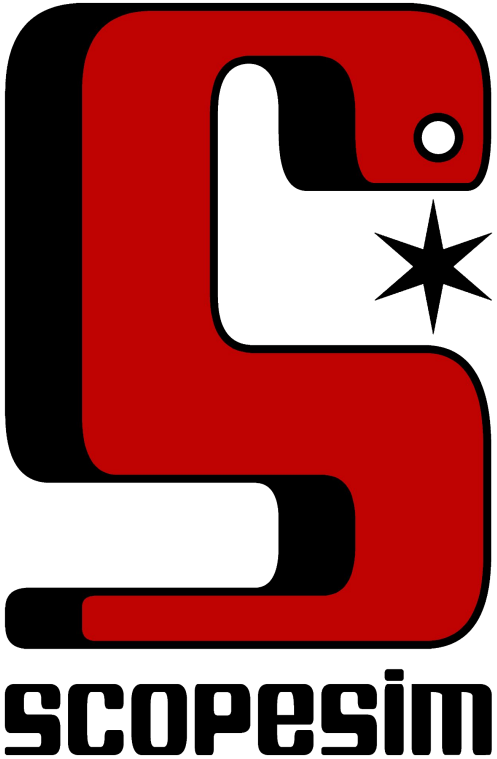
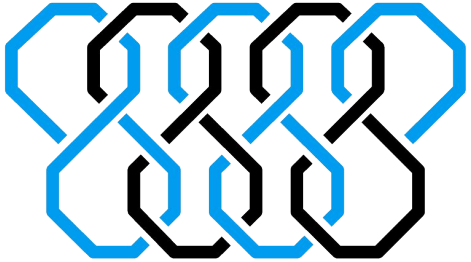


+



MicadoWISE

Hugo Buddelmeijer - DeMo 2021

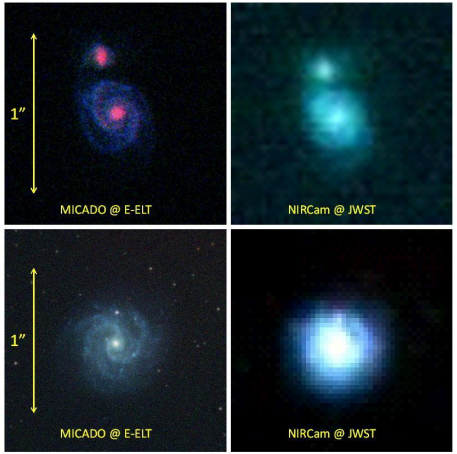
2021/06/14 (with Kieran Leschinski)

https://docs.google.com/presentation/d/1tD2hhGFlJVTRg1FoHw-SfaVD-jInA6xJ7k7Yiha8WTo

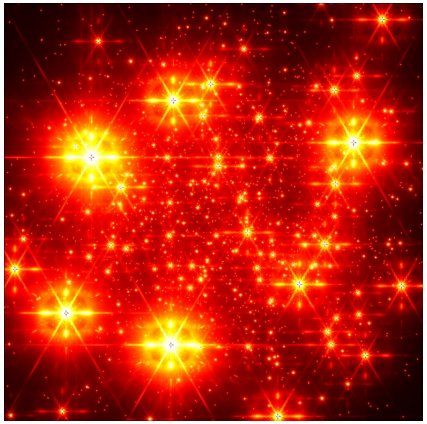
https://gitlab.astro-wise.org/buddel/DeMo2021

Why?

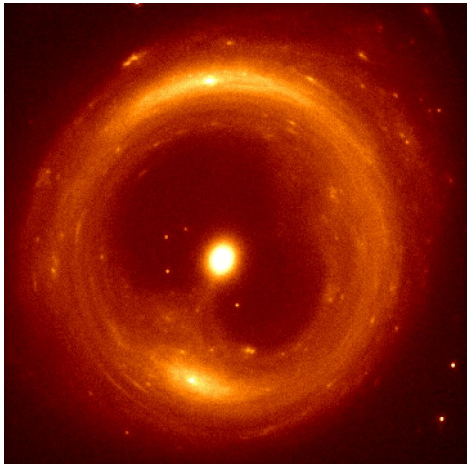
Why ELT + MICADO?



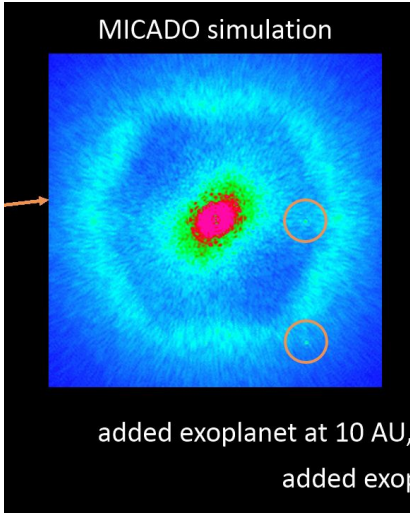
Galaxy Evolution



Crowded Fields



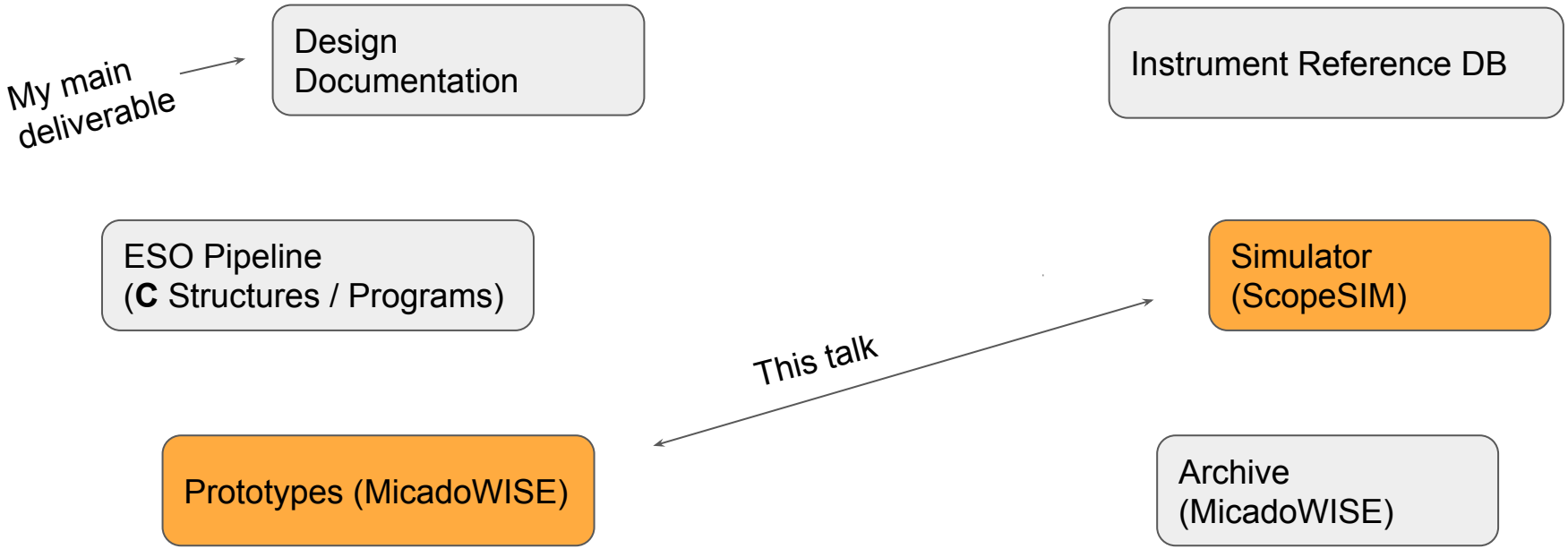
Strong Lensing
(Vegetti & Czoske)



Exoplanets

-> 10mmag rel. photometry, 50μas rel. astrometry, 1:10^6contrast !

Why simulator during design?
To meet stringent requirements

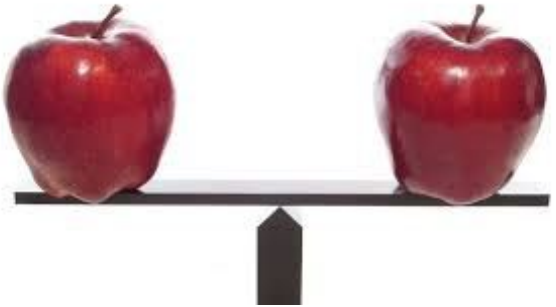


Why ScopeSIM framework?
To avoid reinventing the wheel … again

- Every instrument consortium spends **time and effort** developing their own simulator
- A **common framework** helps when comparing different instruments

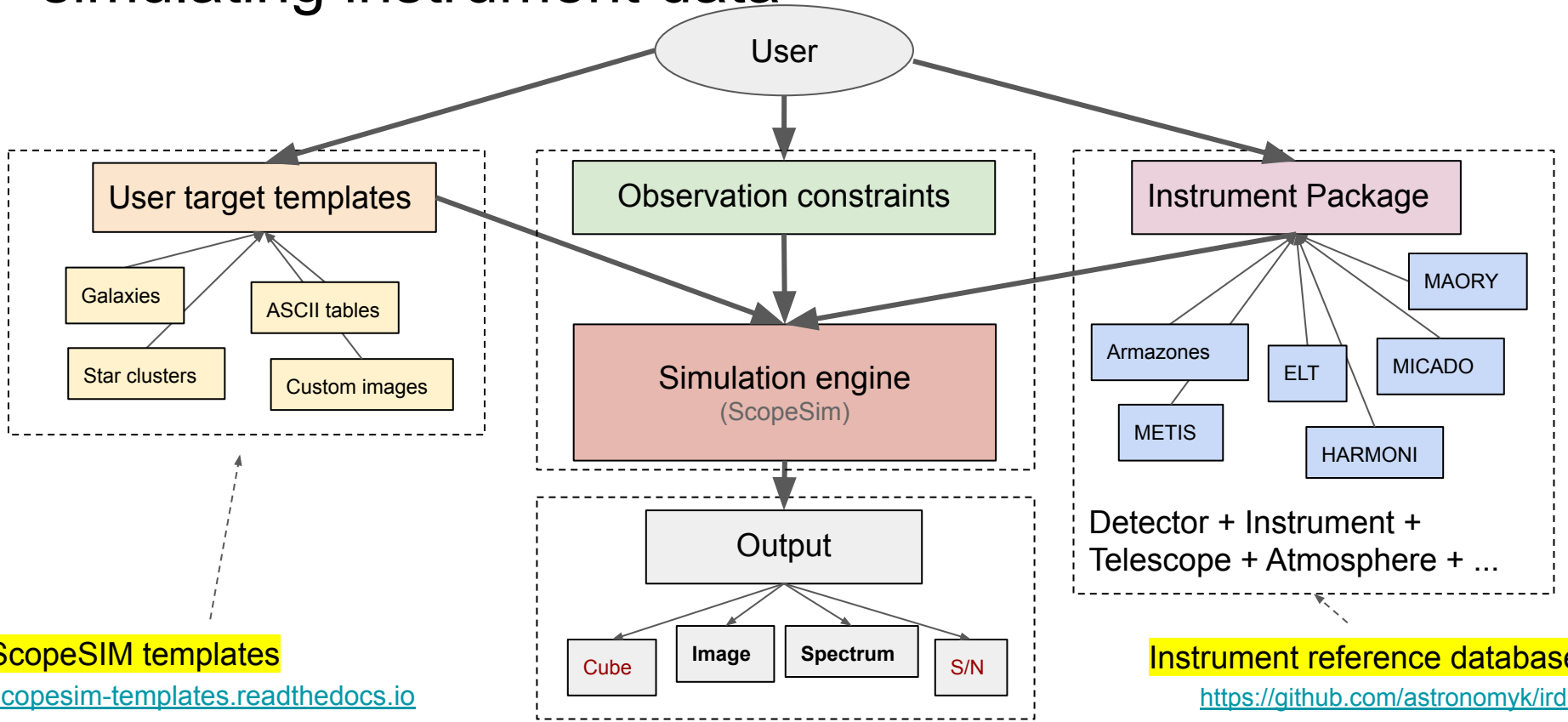
Available packages

MICADO, METIS, HAWKI	NIRCam, WFC3	Univ Vienna 1.5m, 0.8m
Armazones, Paranal, VLT, ELT, MAORY	JWST Hubble	



What?

What is ScopeSIM? A python framework for simulating instrument data



ScopeSIM templates

scopesim-templates.readthedocs.io

Instrument reference database

https://github.com/astronomyk/irdb

ScopeSIM & Pyxel

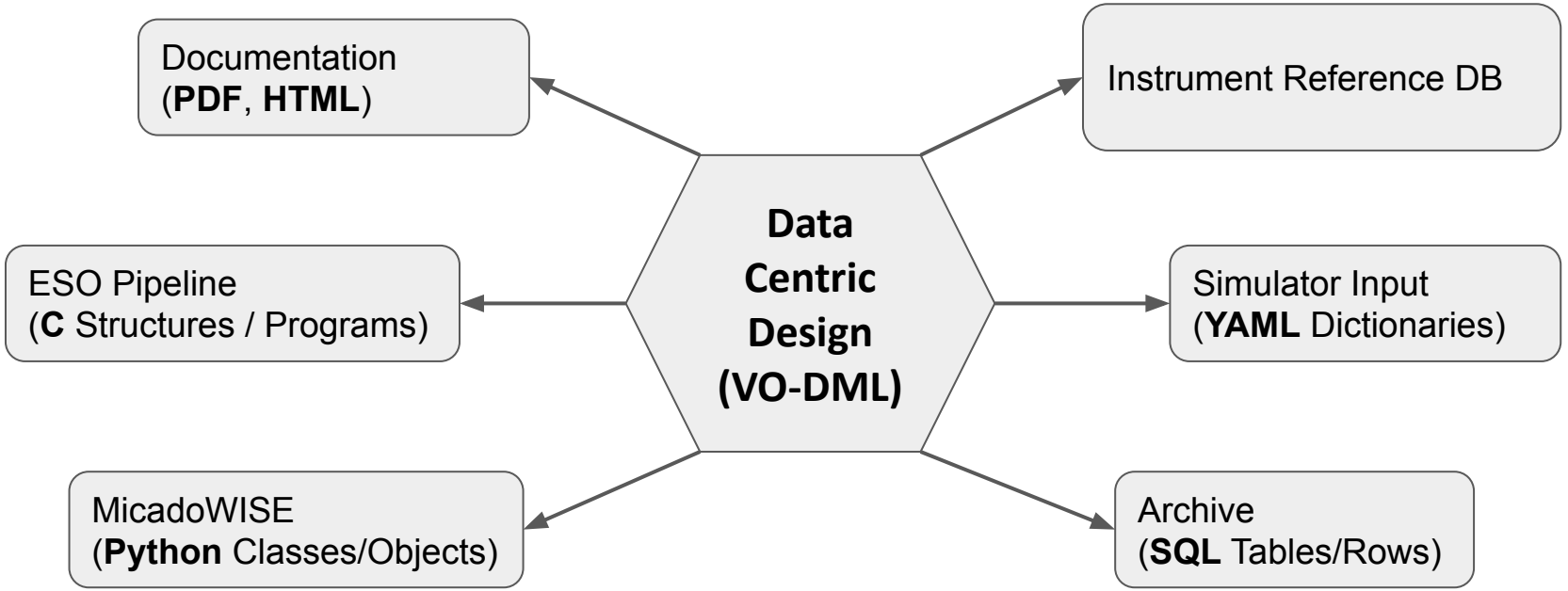
What I like about ScopeSIM

- Modular design, matches data flow
- Computational efficiency
- End-to-end / multiple instruments
- Easy to extend

What I hope to find in Pyxel

- More accurate detector simulations

What is MicadoWISE? An data-centric approach



How?

Live DeMo Demo

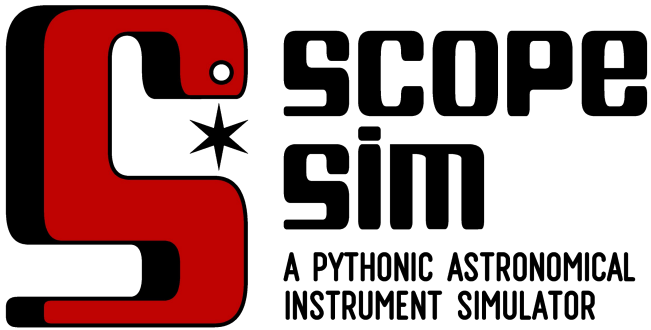
Live Demo

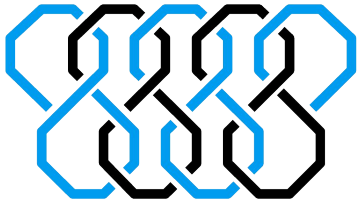
Based on

- https://github.com/astronomyk/ScopeSim/tree/master/docs/source/use_examples/5-liners
- https://github.com/astronomyk/ScopeSim/tree/master/docs/source/use_examples/notebooks
- https://gitlab.astro-wise.org/micado/micadowise/-/tree/master/notebooks

Conclusions:

- integrate your simulator in your design
- use ScopeSIM





MicadoWISE

kdleschinski@gmail.com

scopesim.readthedocs.io

hugo@buddelmeijer.nl

gitlab.astro-wise.org/micado/micadowise

(conda login/password: astro/wise)