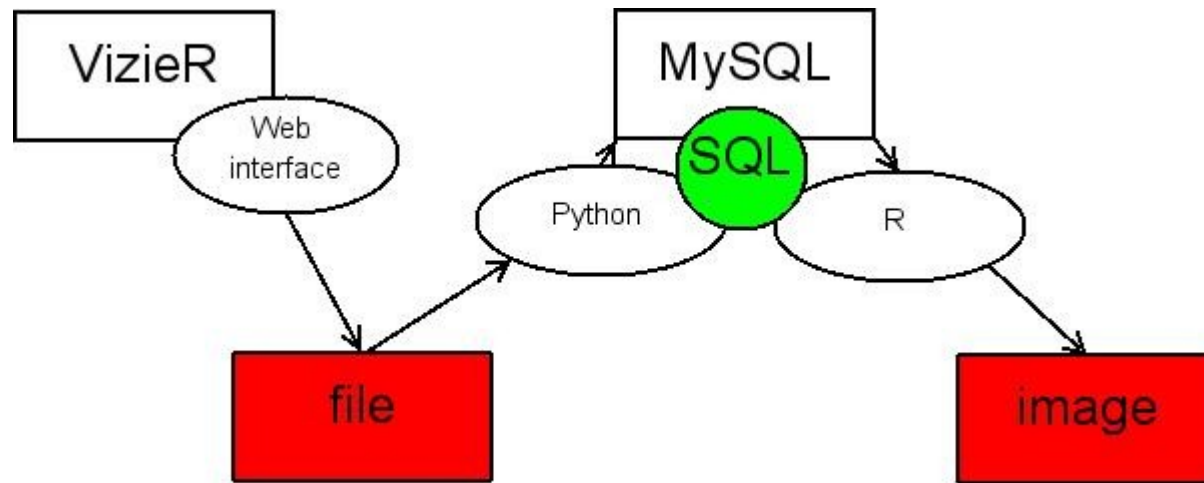


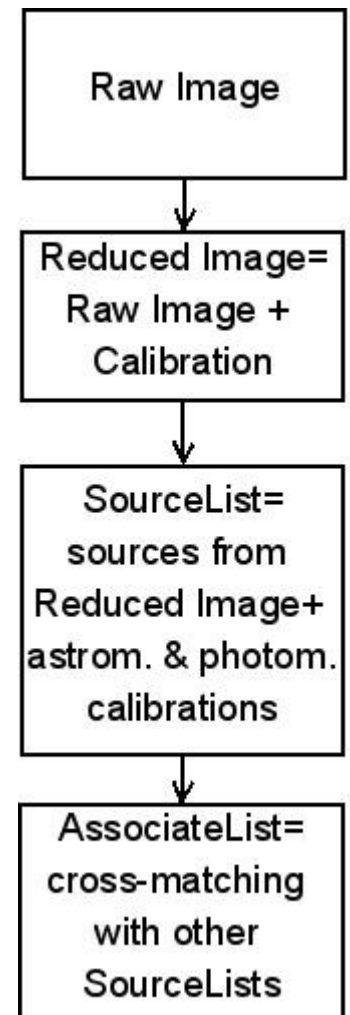
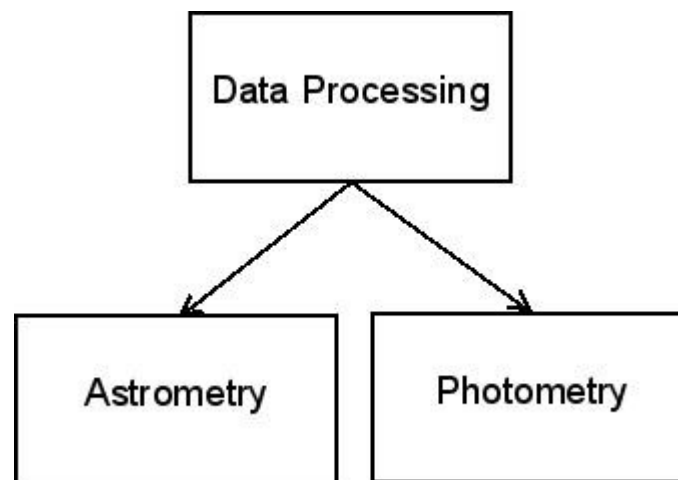
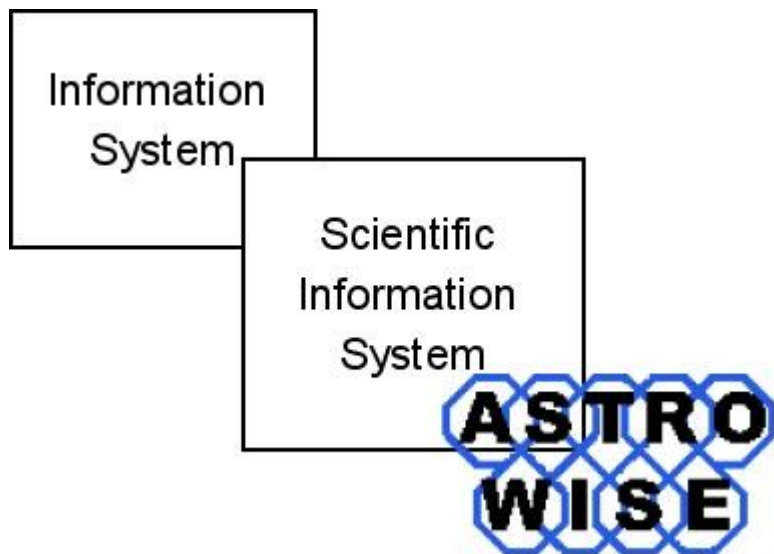
Data Processing & Data Storage



- 3 languages
- 1 RDBMS
- 1 web interface

Data Storage & Data Processing

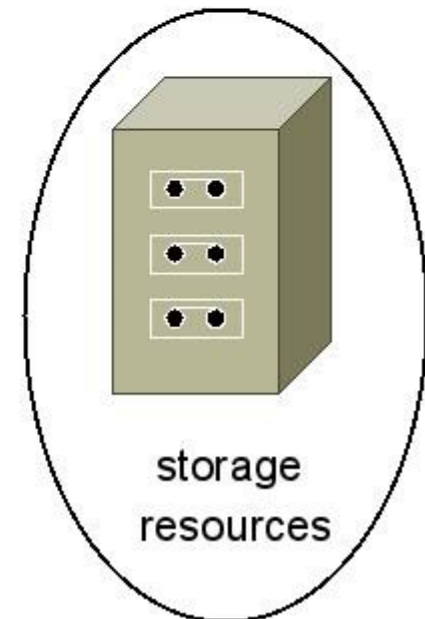
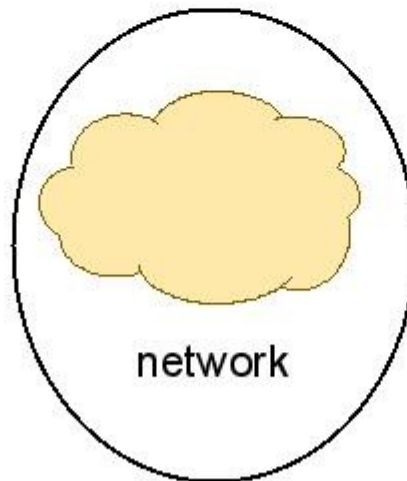
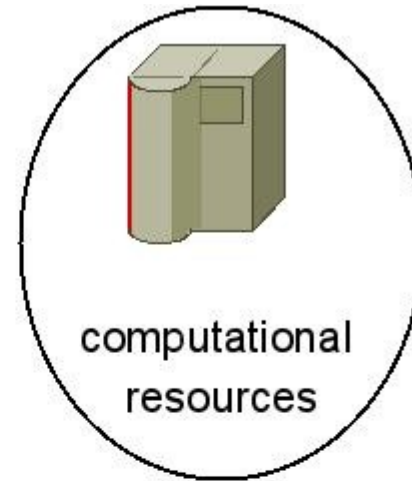
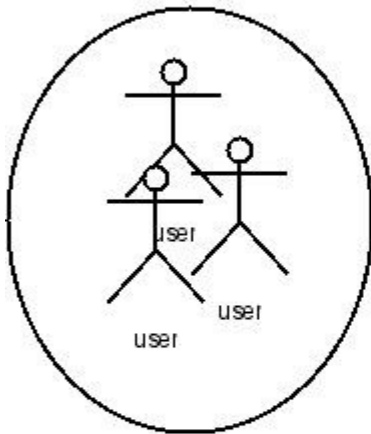
- RDBMS (MySQL)
- Python
- R
- IDL



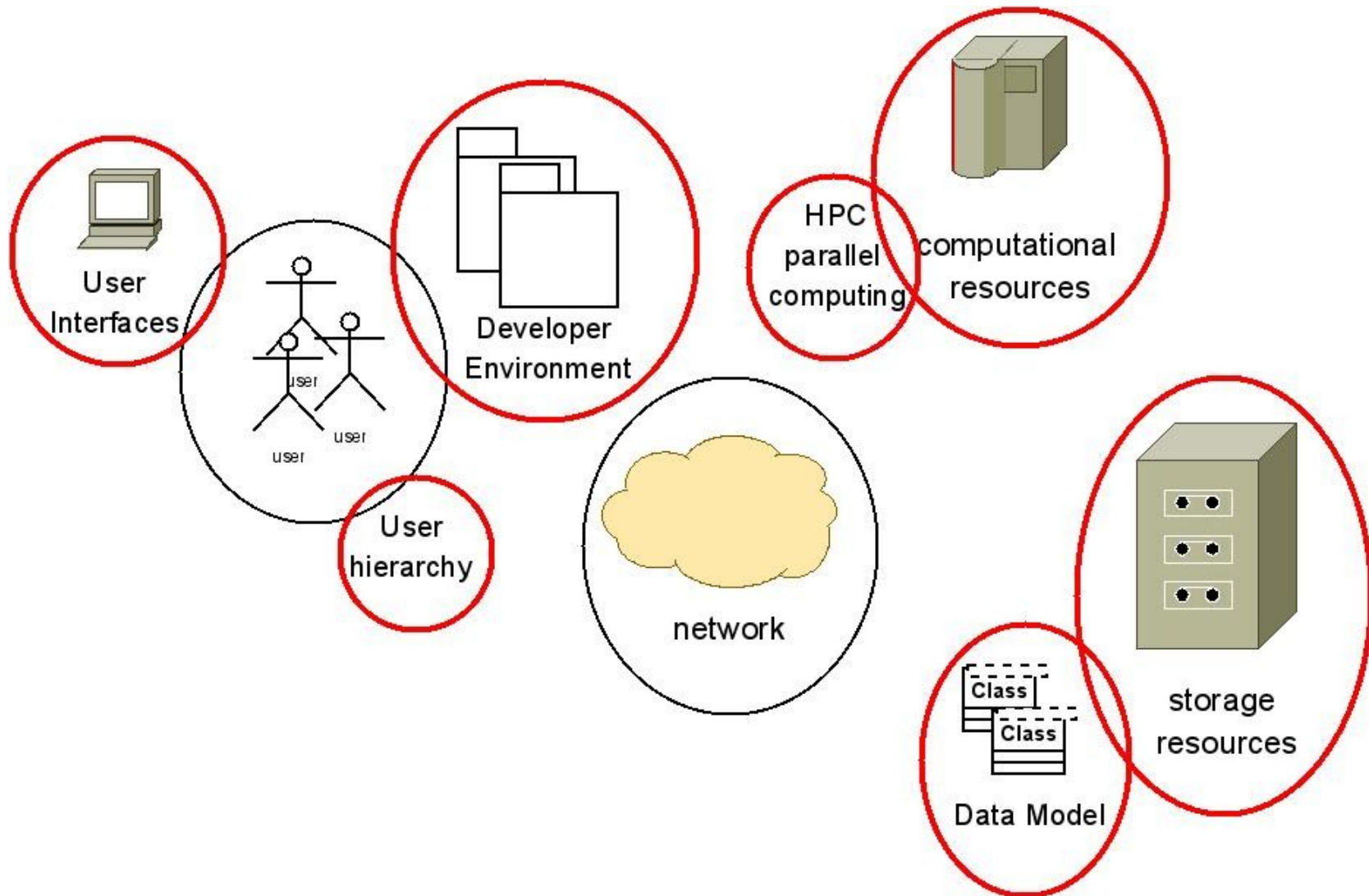
Requirements to Scientific Computations

- Common environment
- Pipelines & workflows
- Quality control
- Massive data storage
- Versioning
- Trackability

Information System



Information systems in science



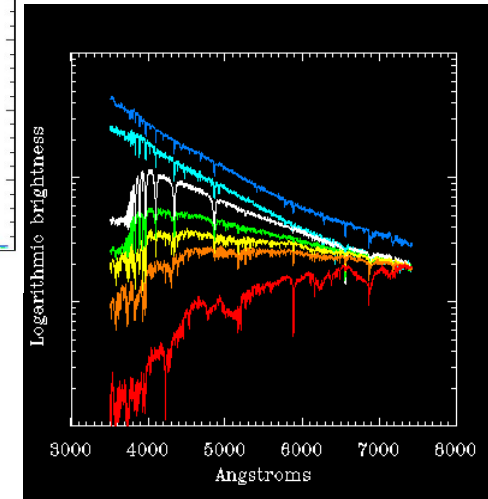
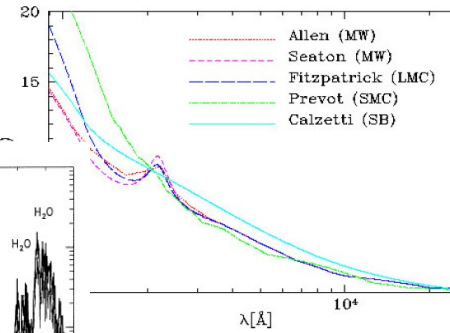
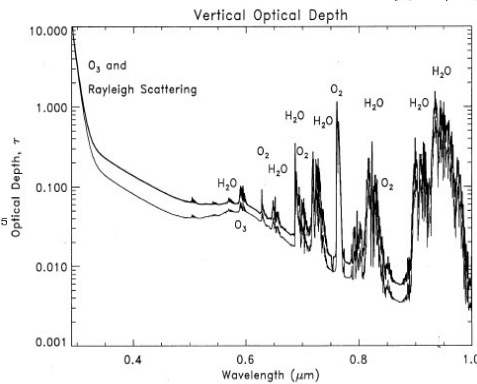
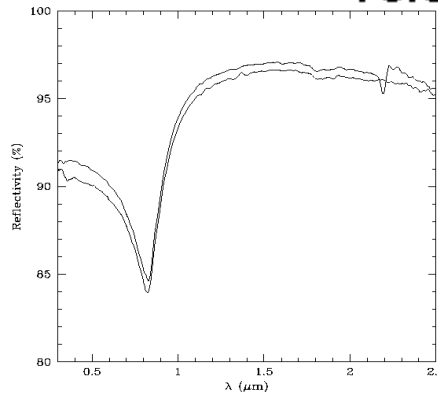
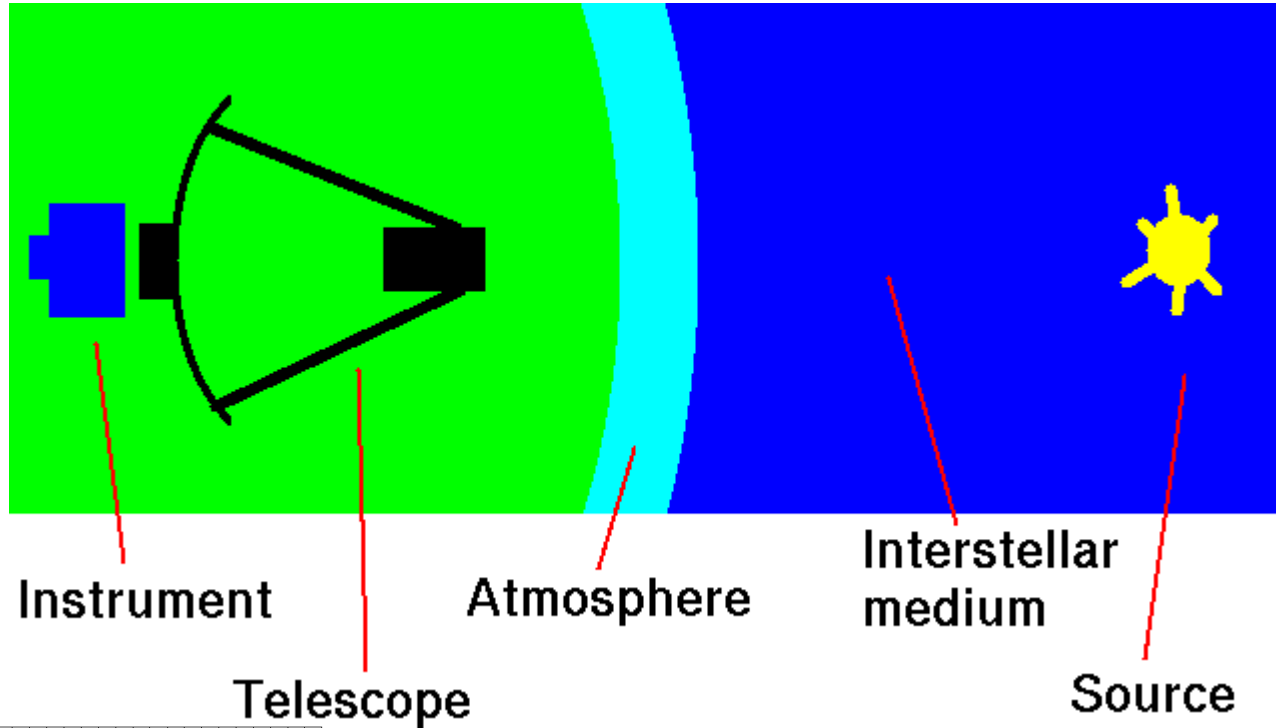
Information systems in science

- Classic information system – repository of resources
- Sensor information system
- Integrated information system

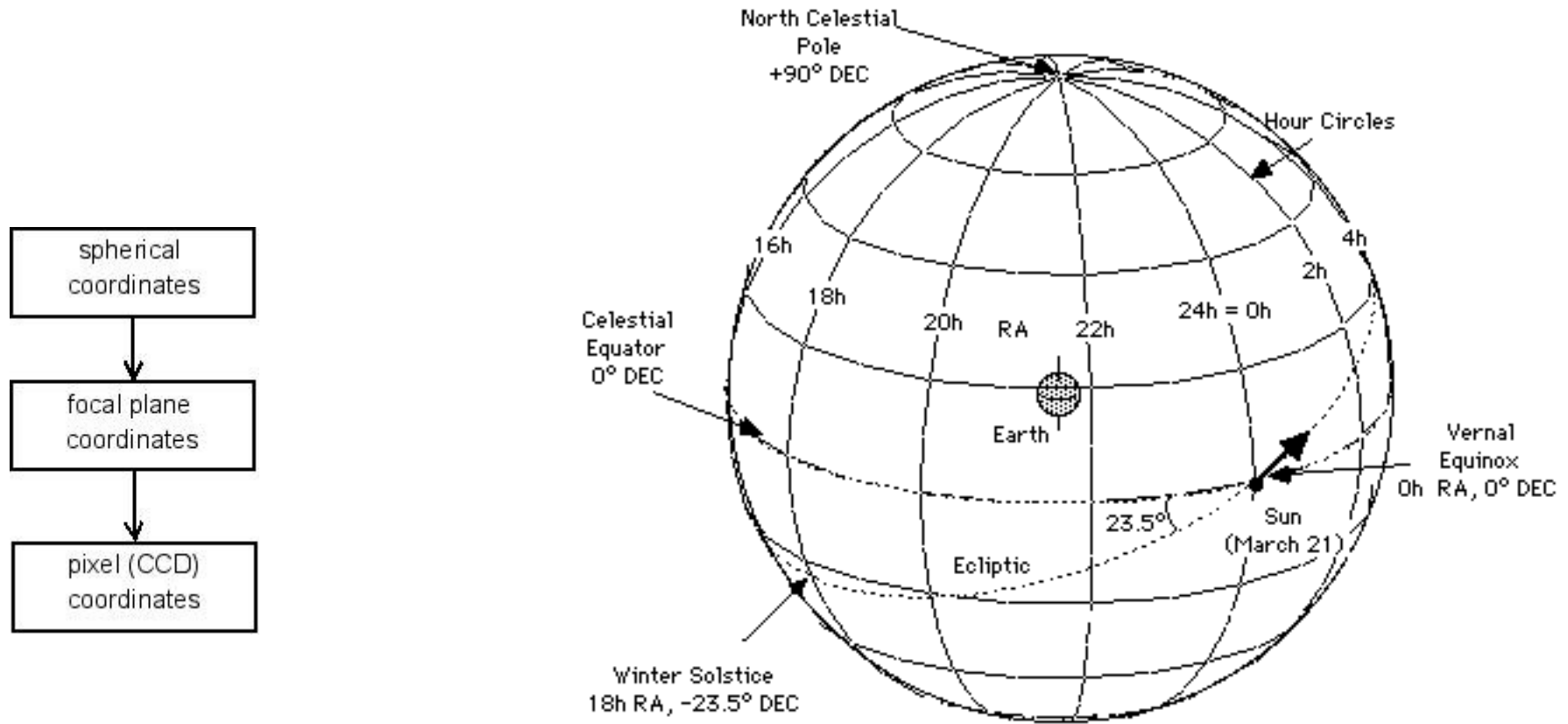
Astro-WISE

- First information system in Astronomy
- Federated data storage and processing
- Uniform access
- Interfaces

What do we observe?

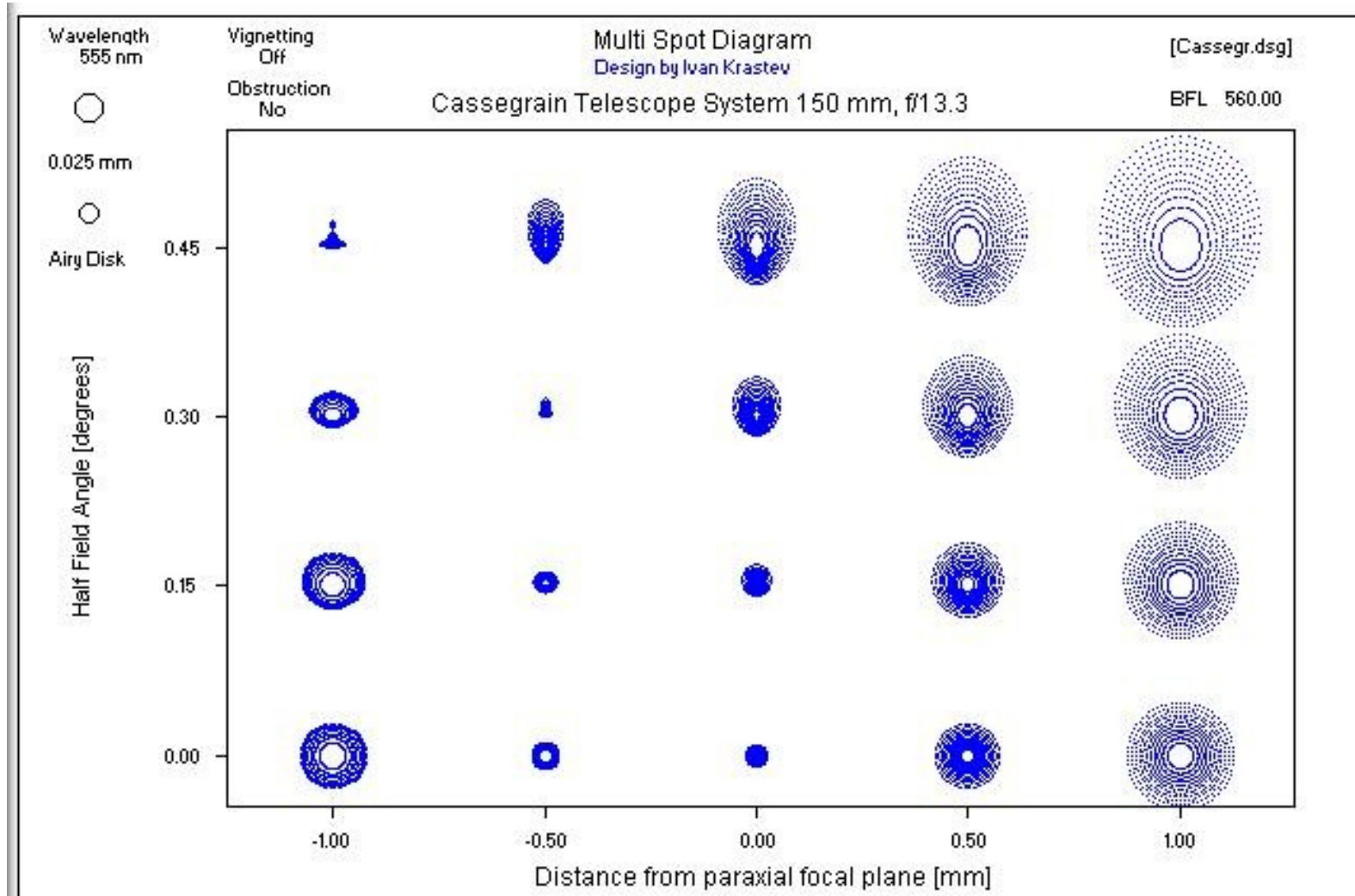
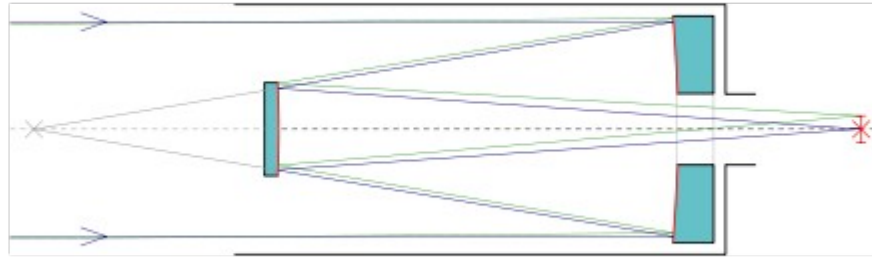


Coordinates

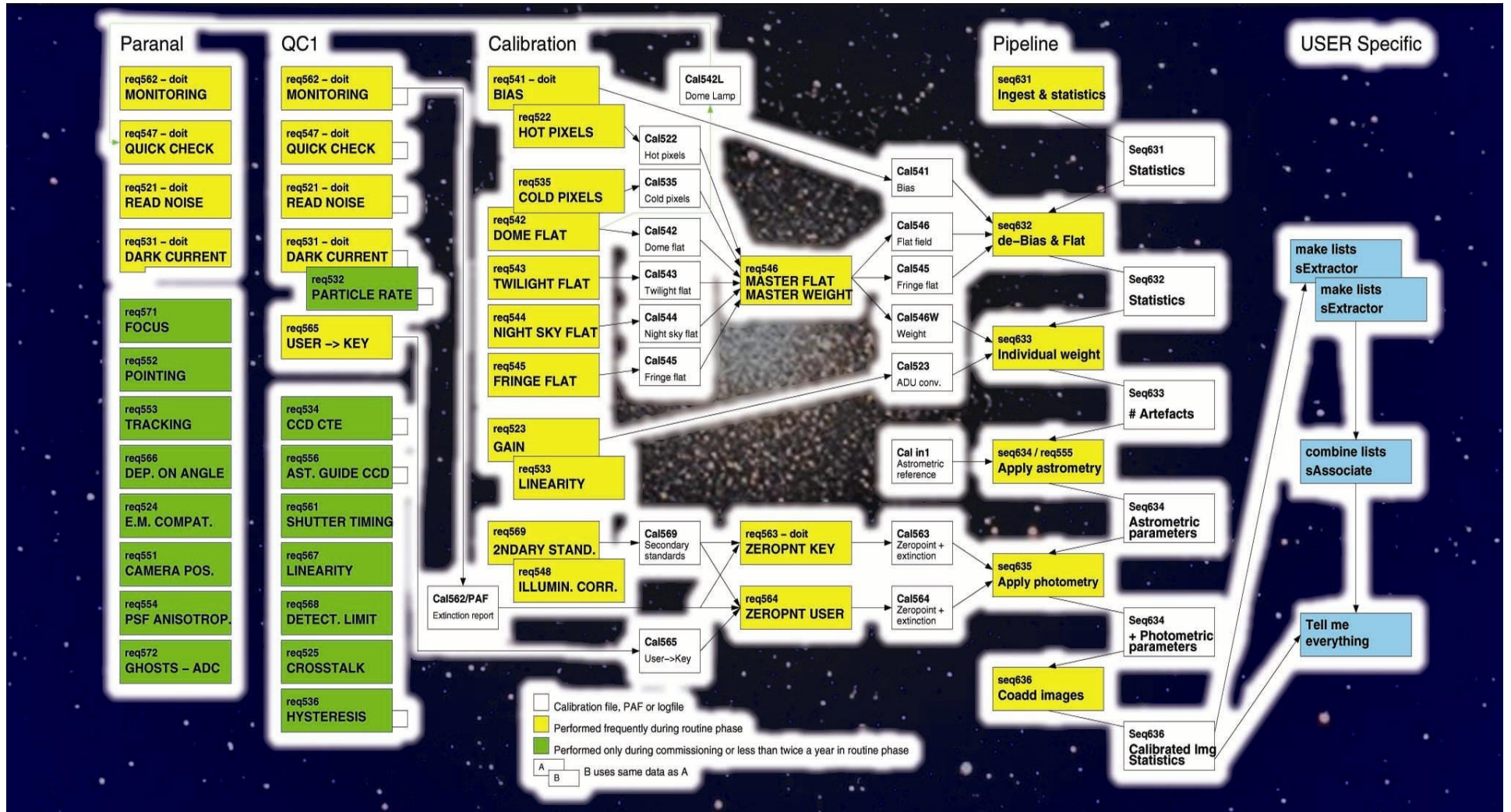


- World Coordinate System (CCD \leftrightarrow sphere)

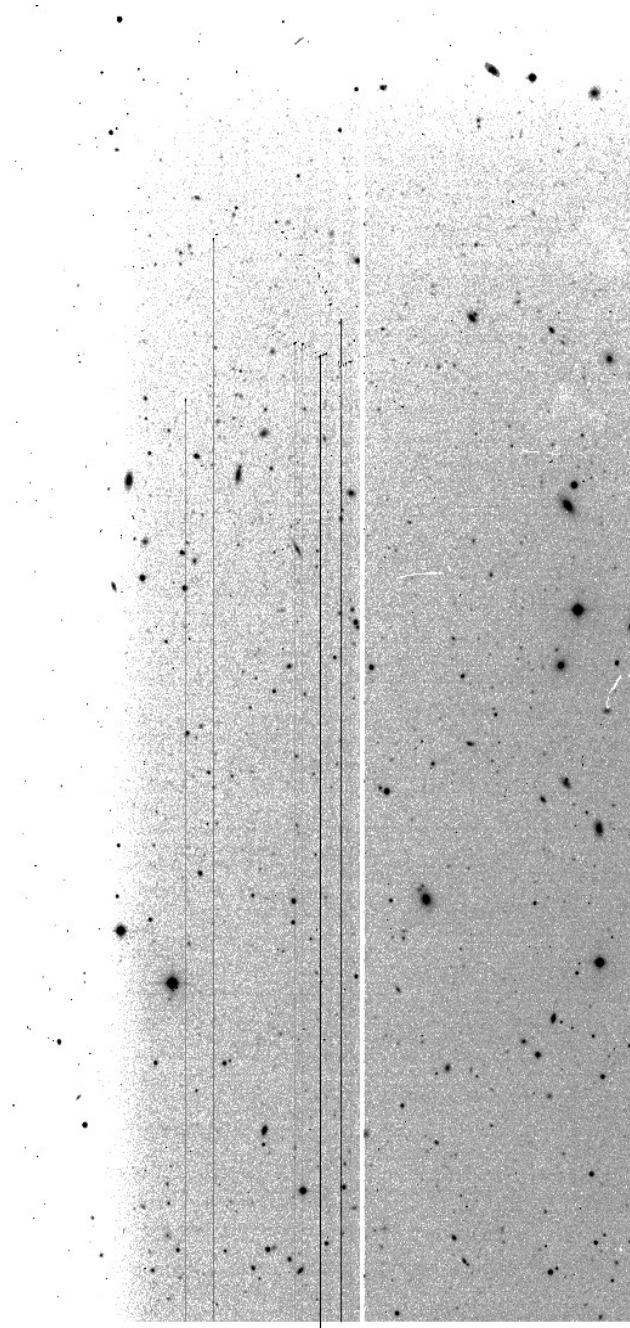
Astrometry : How hard is it?



Data chain in optical astronomy

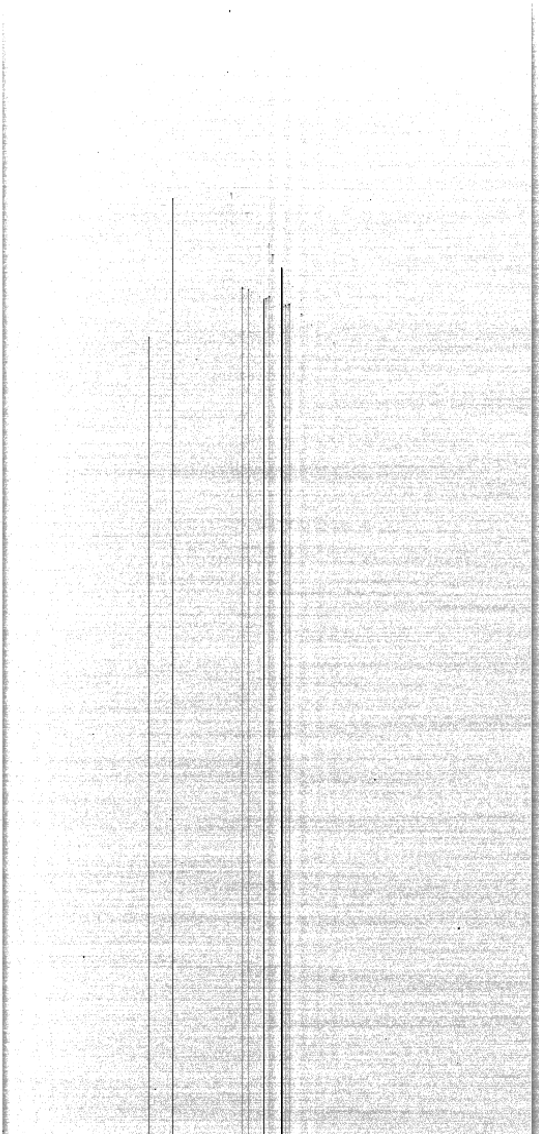


Raw image

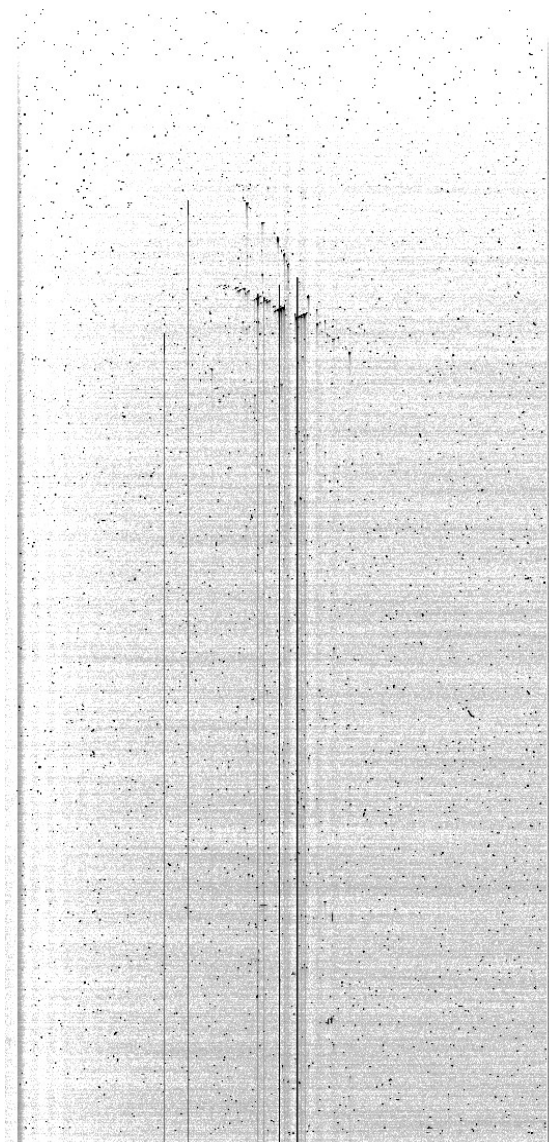


- Sources
- Cosmics
- Hot pixels
- Cold pixels
- Illumination

Calibration images



Bias

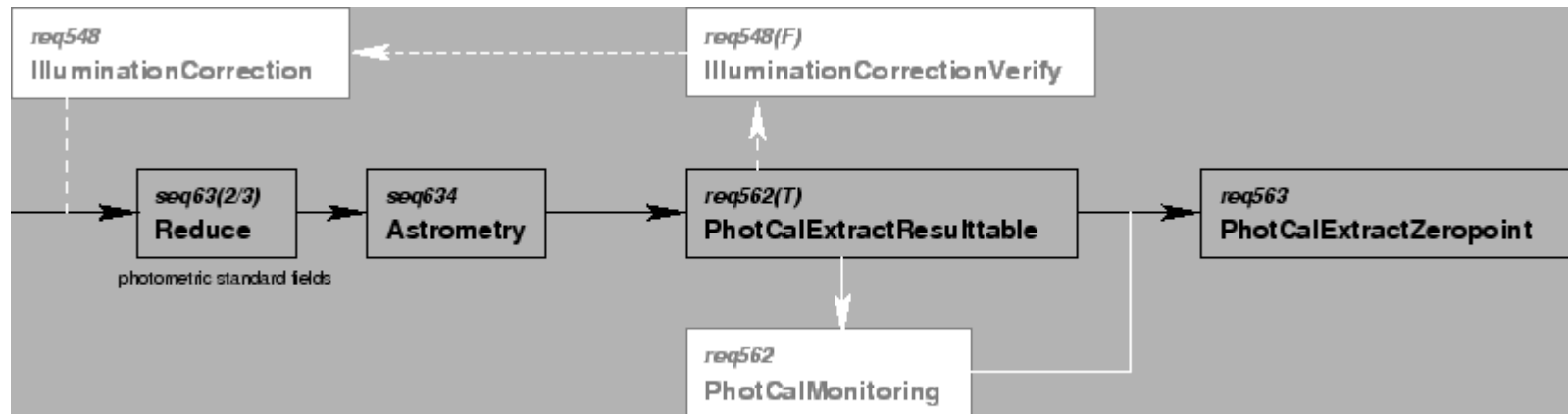
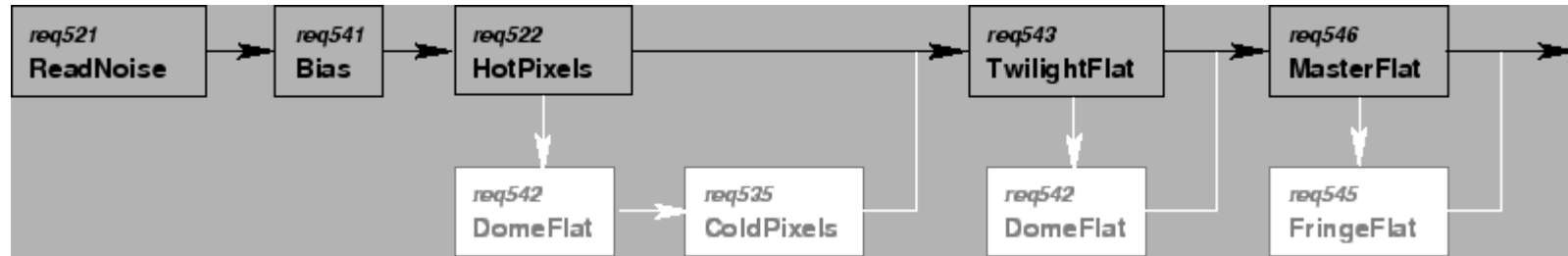


Flat

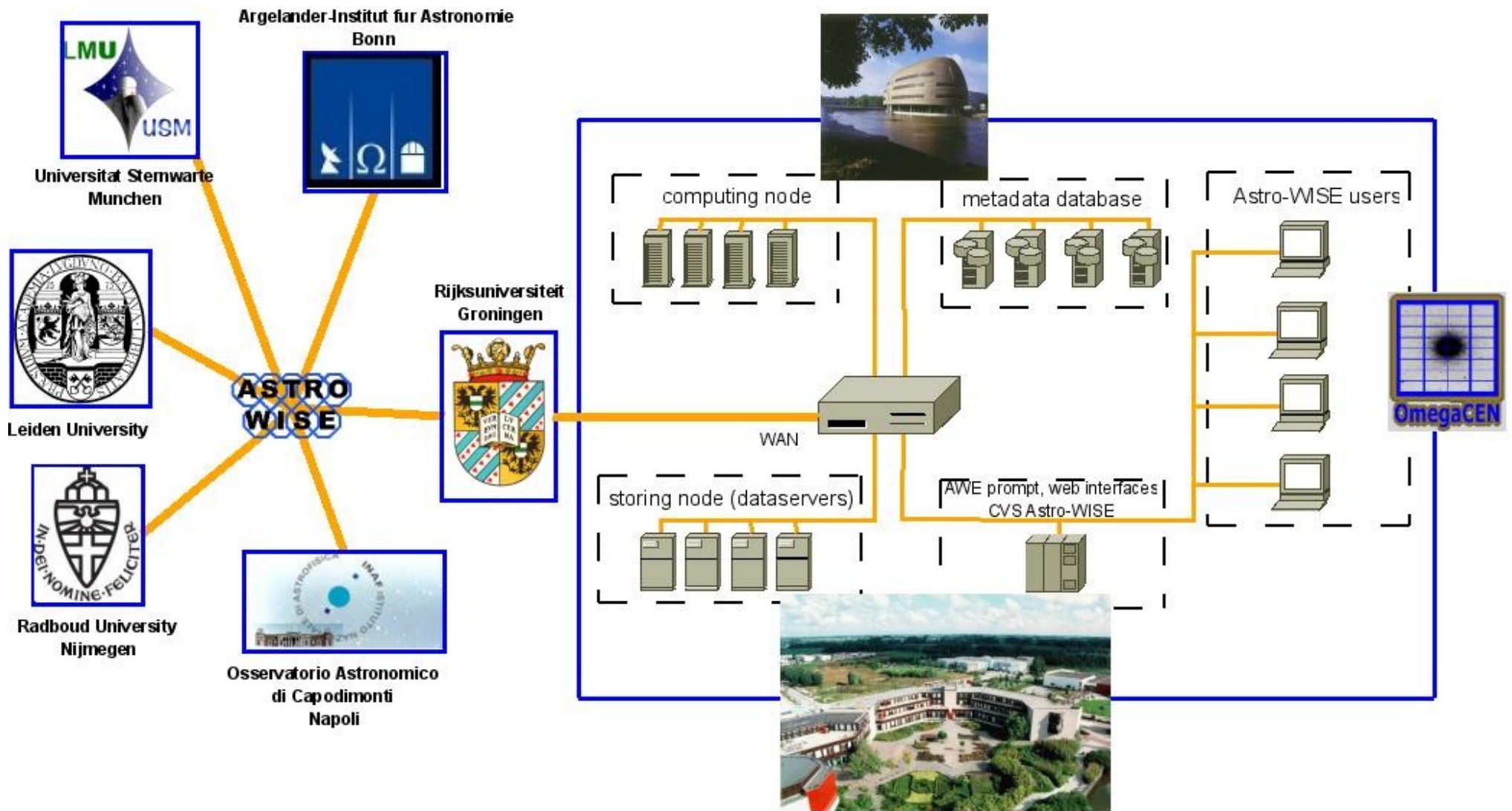


Fringe

Optical pipeline



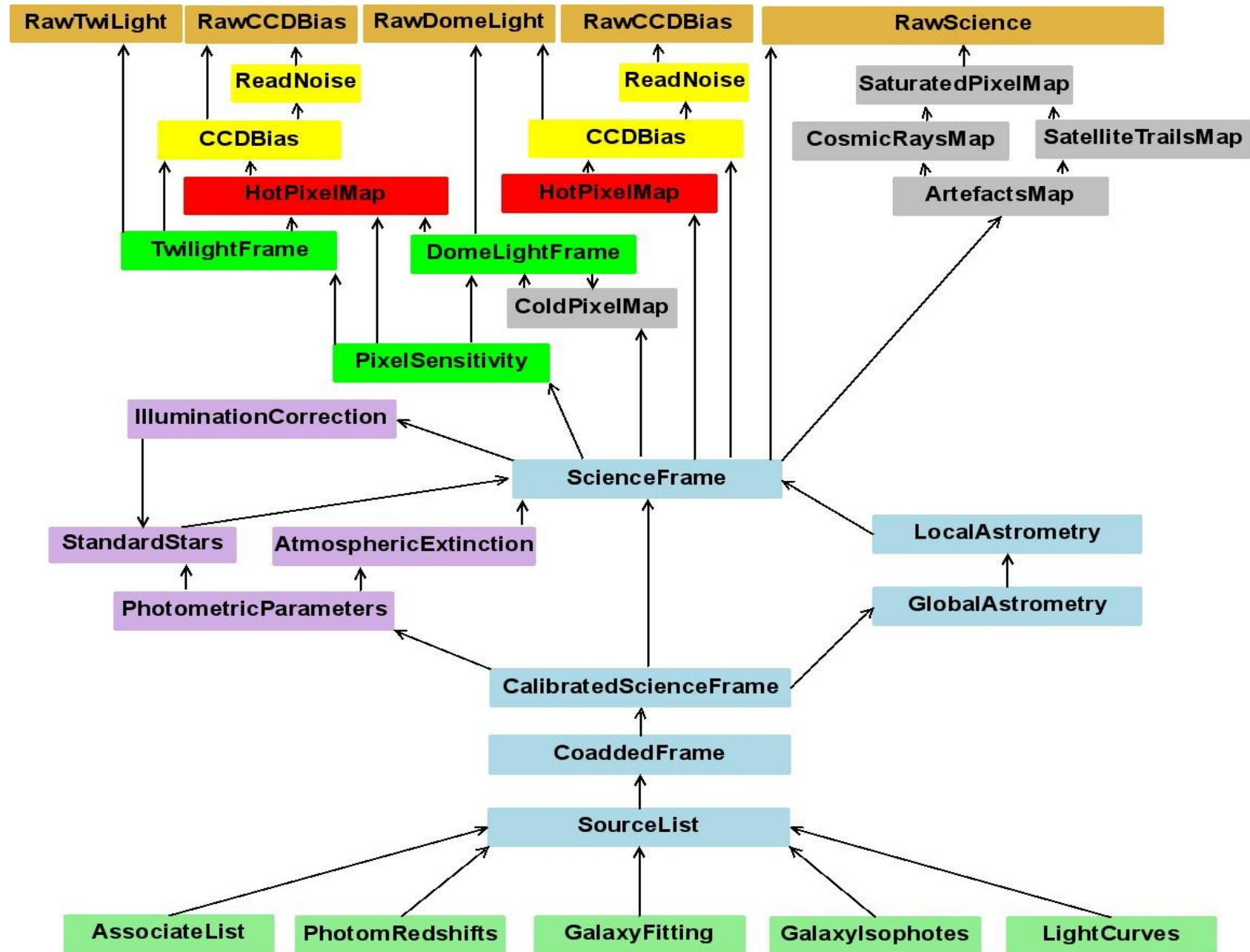
Astro-WISE: Components



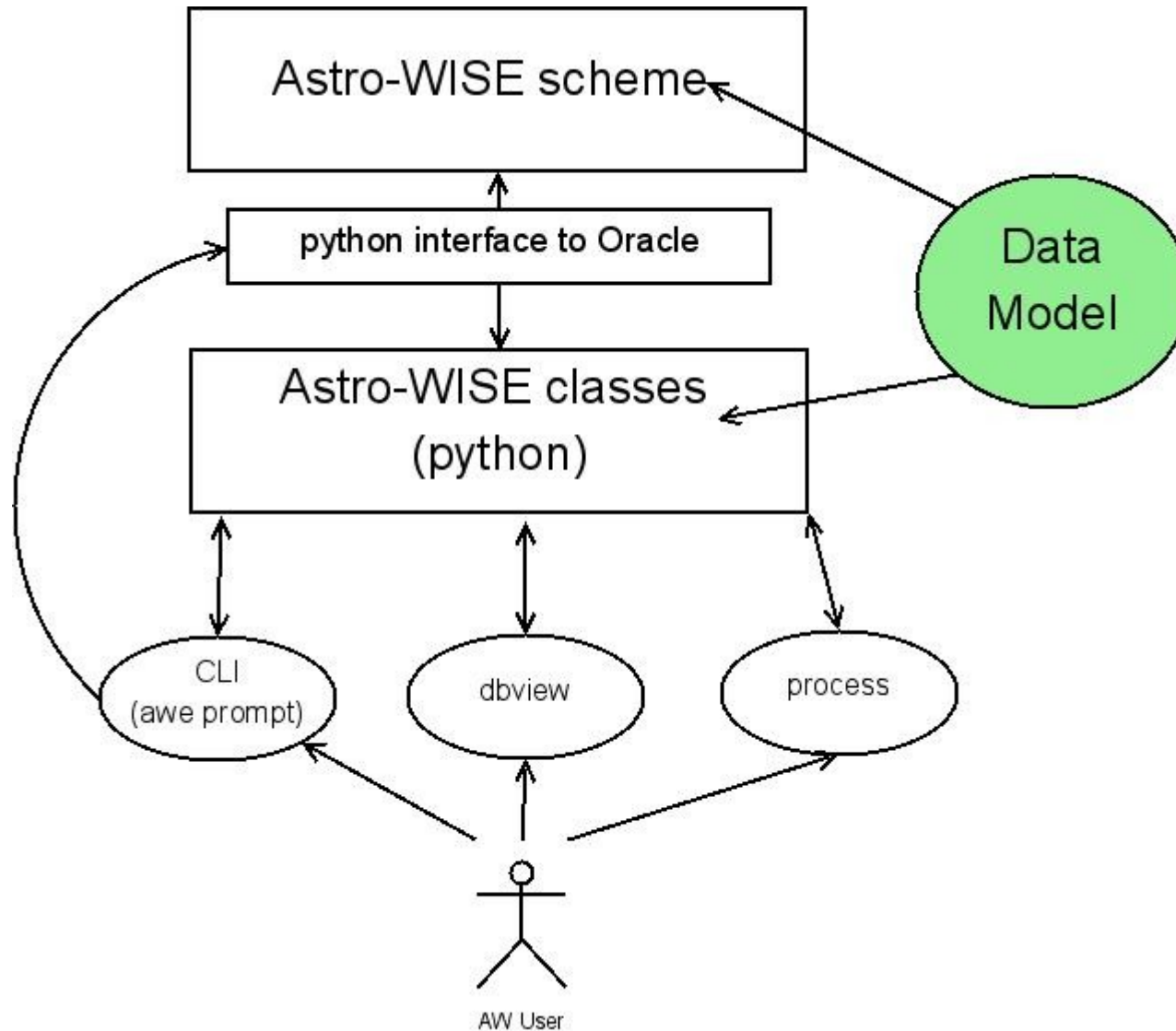
Astro-WISE: Components

- Dataserver (data storage, unique filename)
- Metadata database
- HPC (computing facilities, dpu)
- CLI (awe prompt)
- Interfaces: dbview, Target Processor, CalTS

Astro-WISE: Data Model



Astro-WISE: Layers



Astro-WISE: Interfaces

- CLI: awe prompt (available via web service as well)
- Dbview: browse the AW scheme (dbview.astro-wise.org)
- CalTS: check the status of calibration (calts.astro-wise.org)
- Target Processor: make actual calibration down to SourceList (process.astro-wise.org)
- Quality Server: follow links to check the quality of images
- Skymap: have fun (skymap.astro-wise.org)

WFI@2.2m

