

ISR in data management

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IsrTask.run()

- Per amp overscan correction
 - Overscan region fit by some function
- Crosstalk correction
 - Crosstalk coefficients
- CCD assembly
 - Camera model for translating electronic coordinates to detector coordinates
 - This trims out non-physical pixels
- Bias correction
 - Master bias frame

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lsrTask.run()

- Linearization
 - Function to apply linearity (LUT or functional form)
- If doing brighter fatter correction do saturation and defect interpolation, otherwise wait.
- Brighter/fatter correction
 - Brighter fatter correction kernel
- Dark correction
 - Master dark frame and exposure times
- Fringe correction (can optionally be applied after flat fielding)
 - Master fringe frame

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IsrTask.run()

- Flat correction
 - Master flat
- Mask and interpolate defects and saturated columns (if not done at the same time as B/F correction)
 - Defect list
 - Threshold for saturated pixels
- Fringe correction (if delayed to after flat fielding)
 - Master fringe frame

Non-pixel level operations



[IsrTask.run\(\)](#)

- Distort pure tangent plane WCS with known optical distortions
 - Distortion model attached to Camera model
- Add transmission models to the exposure
 - Transmission curves from: optics, filter, sensor, and atmosphere

What is not in ISR?



CharImage

- Cosmic ray detection and interpolation
 - Some argue against interpolation
 - Properly flagged, it shouldn't be an issue
- Background estimation
- PSF estimation
- Detection and measurement

What is not in ISR?



CalibrateTask

- Astrometric model determination
- Photometric model determination