Simulation of the multi-view imaging system with differentiable ray tracing

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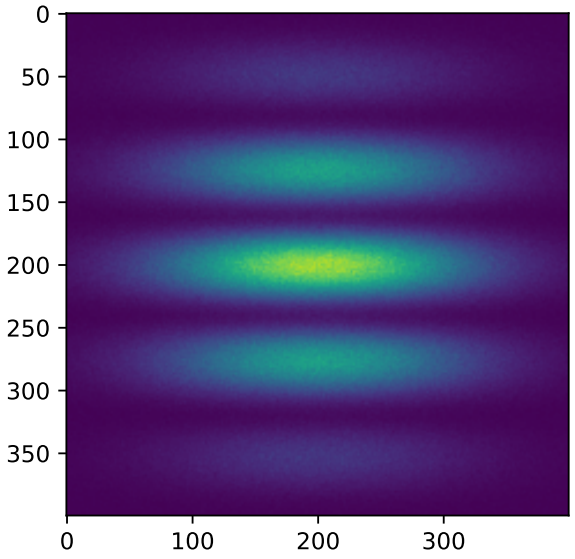
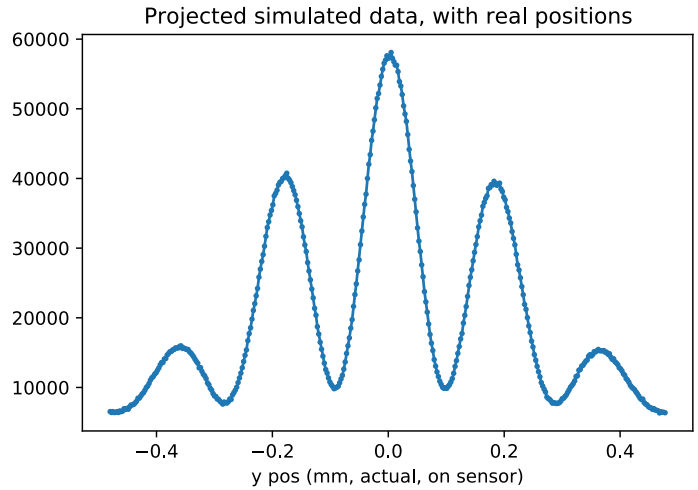
U.S. DEPARTMENT OF ENERGY
Office of Science

SLAC NATIONAL ACCELERATOR LABORATORY

Calibration studies

- How do the magnification and lens f-number affect the ability to fit the phase?
  - 1d curve fitting.
    - Could be improved by fitting the phase in 3d w/ the simulator.



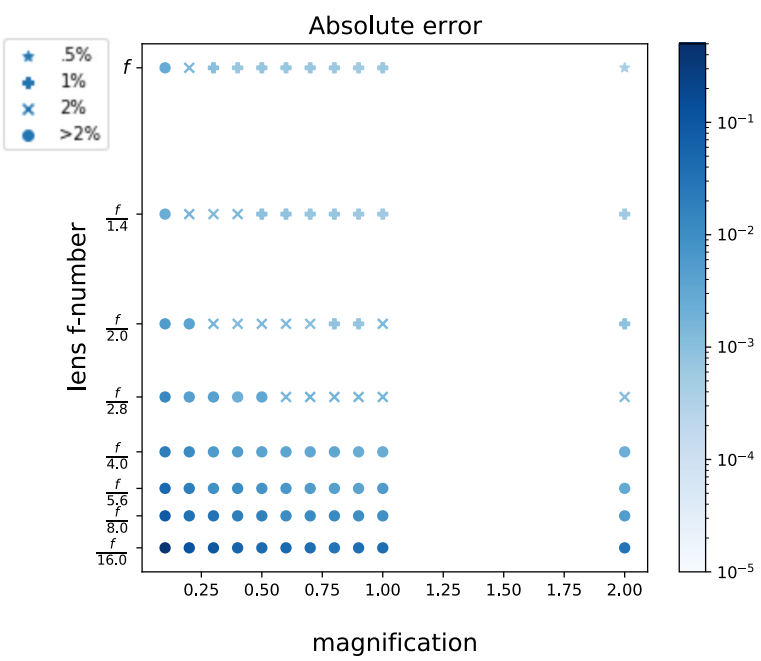


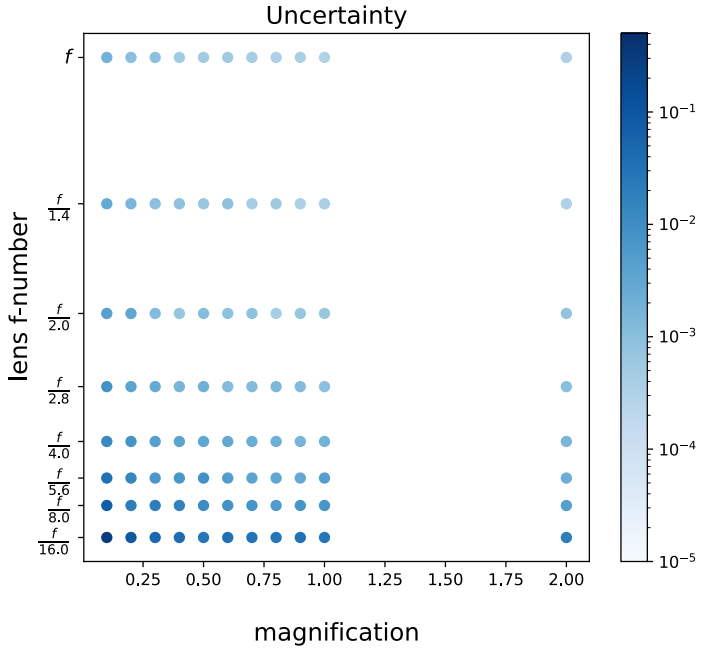
ϕ

25mm lens, 2.4um square pixels, QE & noise included

Calibration studies

- The higher the magnification and lens f-number, the better.
  - Although the number of photons / pixel decreases when the magnification increases.
  - It seems that the DoF has no noticeable effect.





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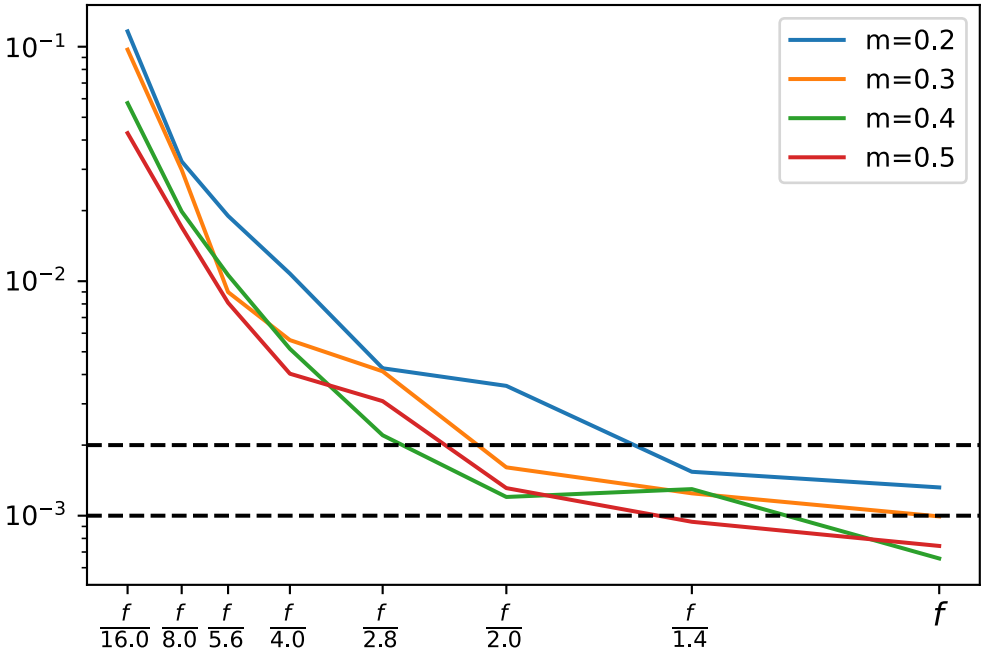
Calibration studies

- m=0.243 and m=0.4 seem reasonable.



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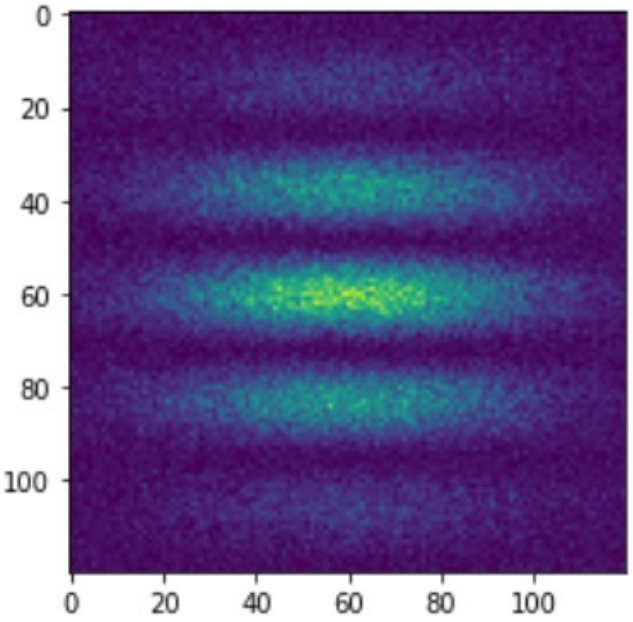
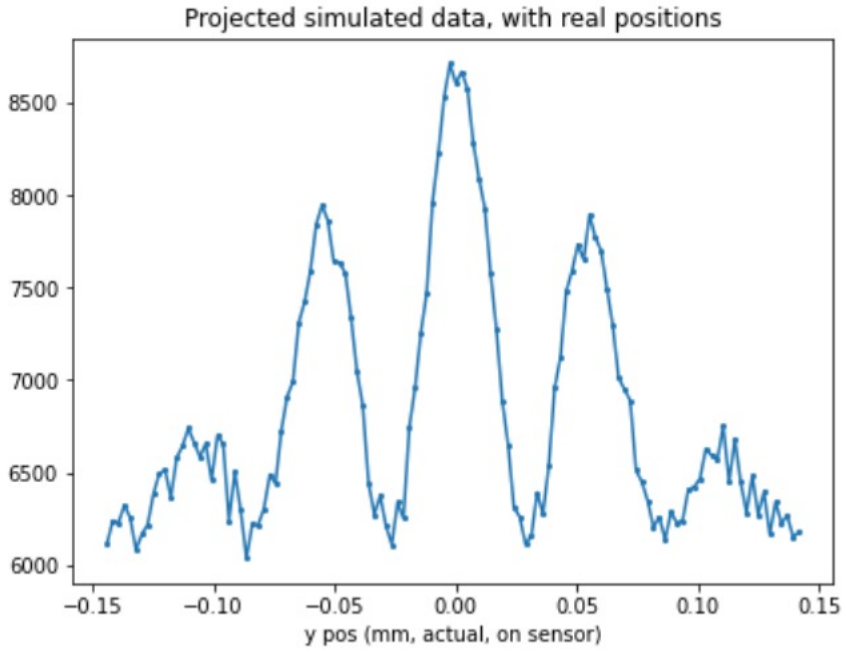
Calibration studies





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