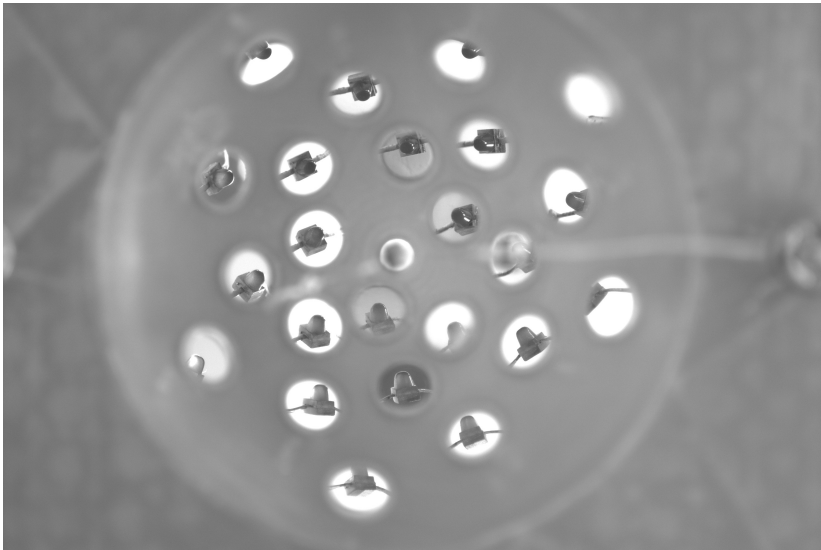


Simulation of the multi-view imaging system with differentiable ray tracing

July 2021

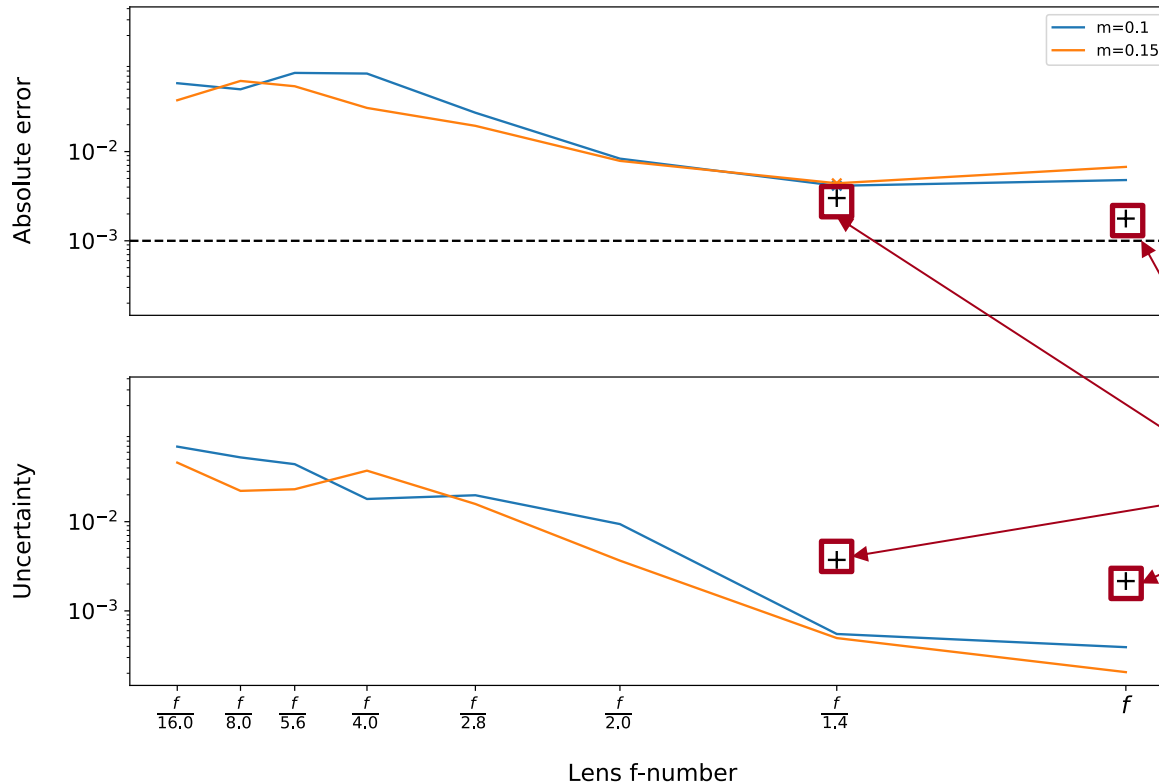
3d reconstruction

- Do as if each view was taken by a different pinhole camera
 - Run 3D reconstruction (e.g NeRF or standard algorithms)
 - Baseline & POC while we correct for simulator misspecifications
- Reconstruction with the simulator



Parameter fitting with mirrors

- Preliminary results: fitting the phase w/ mirrors & different parameters
 - Worse results in terms of absolute error wrt. mirrorless setup
 - Algorithm may be slightly biased
 - Better uncertainties



$$\|A(x) - b\|_2^2$$

50e⁶rays

1e⁹rays

Mirrorless setup