Background

1) One can not measure phase directly by a camera.
2) Phase retrieval using GS algorithm

Motivation

Issues of GS:
1) Two near-field intensities
2) Initial phase selection
Add nonlinearity & simulation results

Linear Medium
\[ n = n_0 \]

n=2.31

Nonlinear Medium
\[ n = n_0 + \Delta n(I) \]

\[ \Delta n \approx \gamma(V) \cdot I \]

1. Electro-optic: \[ \Delta n \propto E_{app} \]
2. Light-sensitive: \[ \Delta n \propto I \]

Sr Barium Niobate (SrBa₂Nb₂O₇)
Analysis & conclusion

Linear reconstruction

Nonlinear reconstruction
Come to see poster #35!

Thank you!