

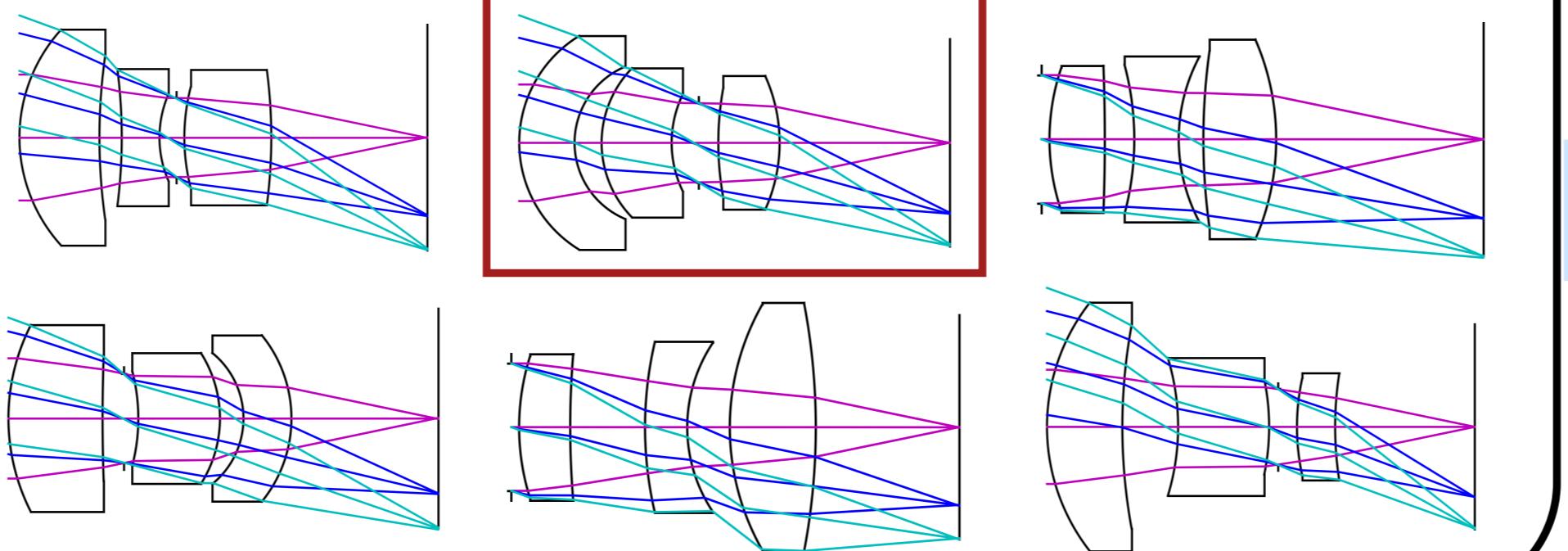
QGSO

Design Specifications

- Field of View
- F-number
- Lenses Number
- Manufacturing Constraints
- ...

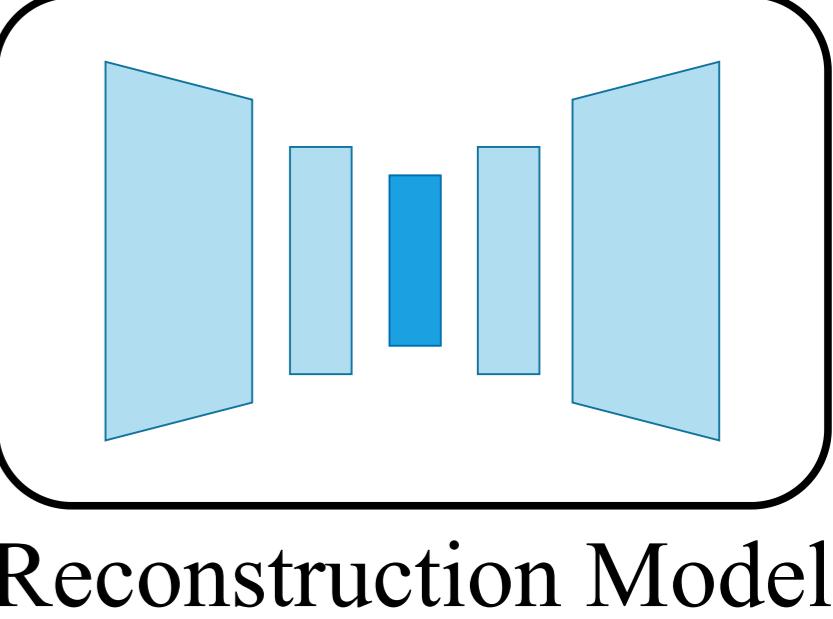
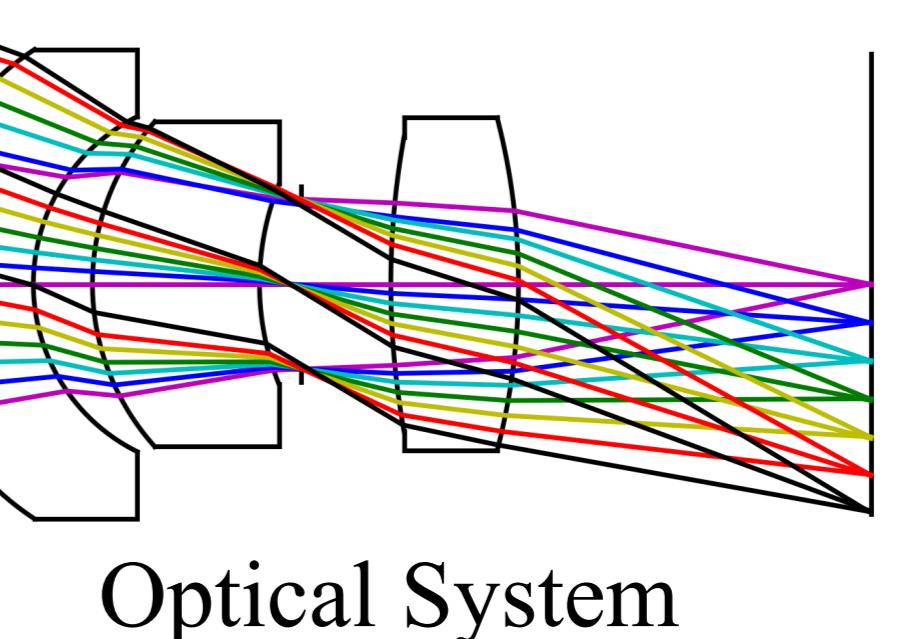
OptiFusion

Diverse Initial Structures



EPJO

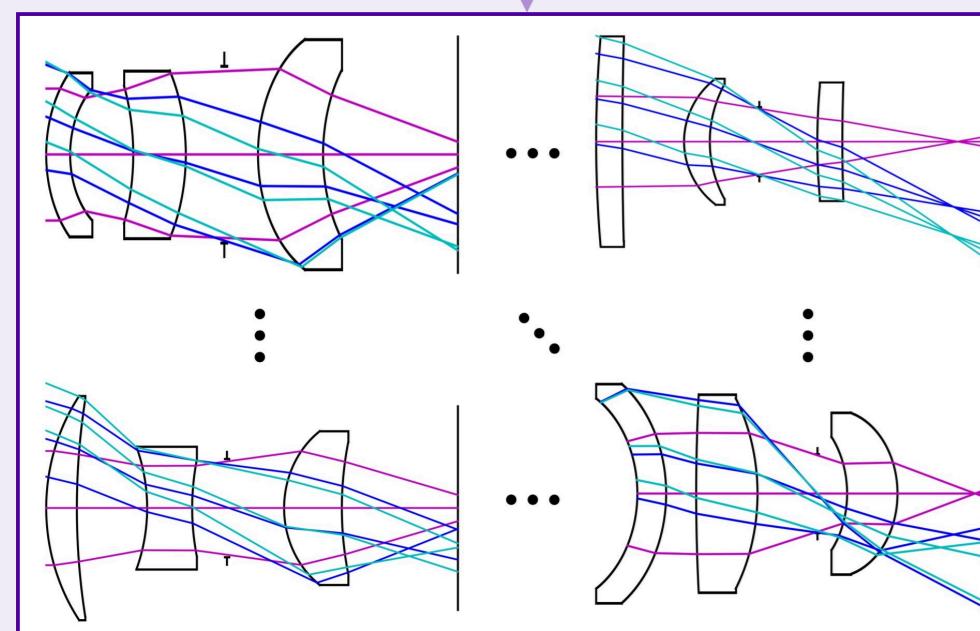
Optimal Solution



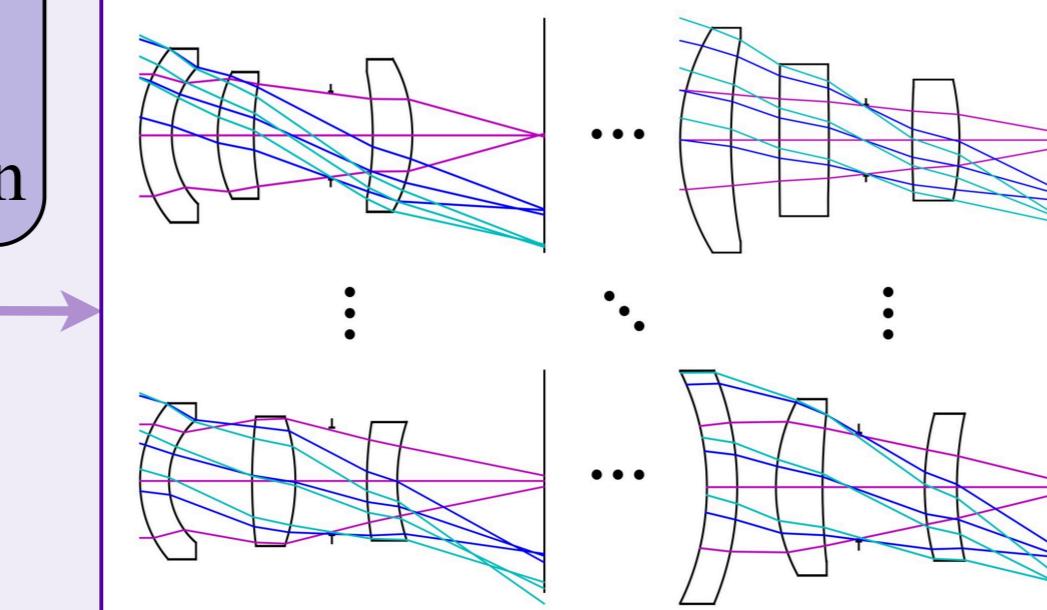
OptiFusion

Design Specifications

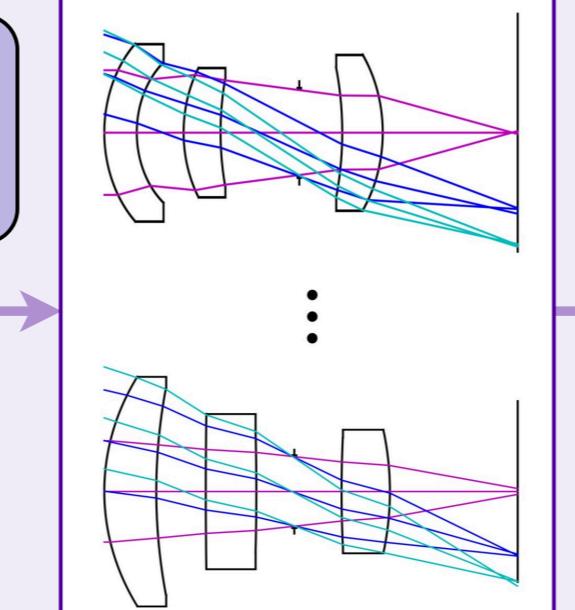
Random Initialization



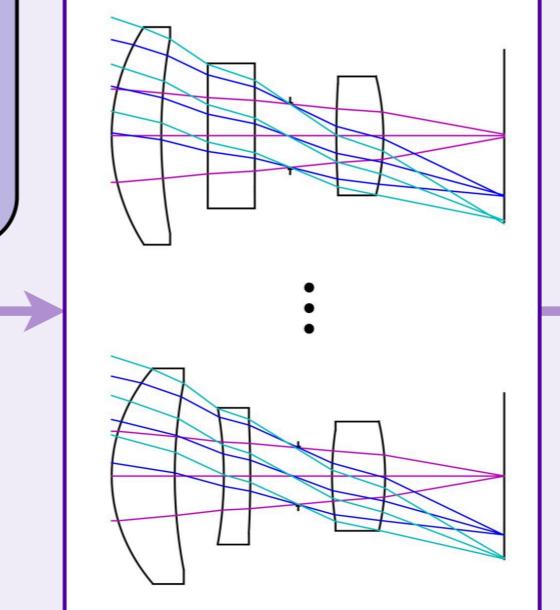
SA for Global Optimization



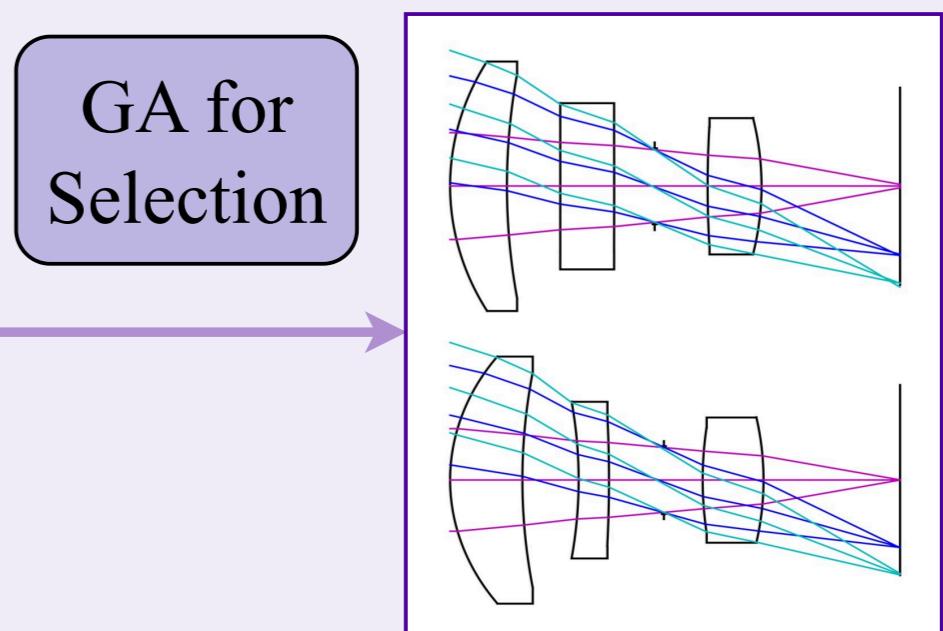
GA for Selection



ADAM for Local Optimization



GA for Mutation



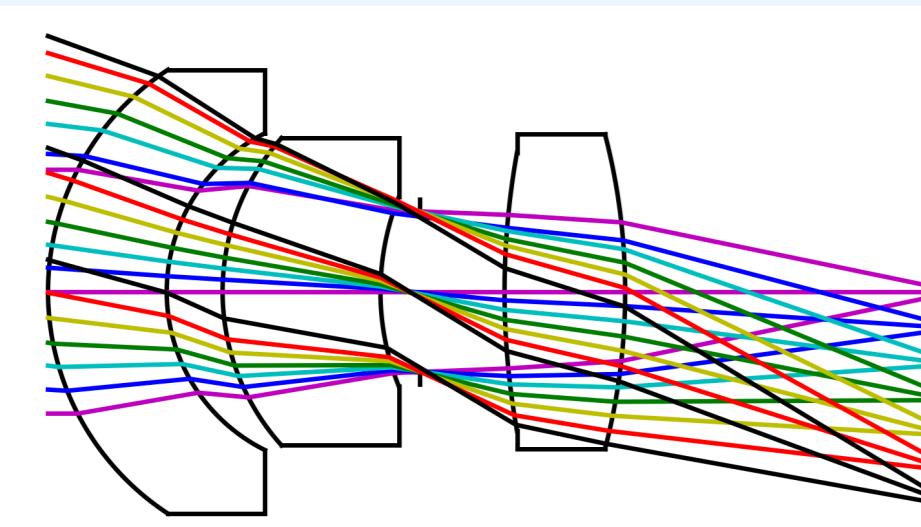
No

Satisfy The Requirements
Diverse Initial Structures

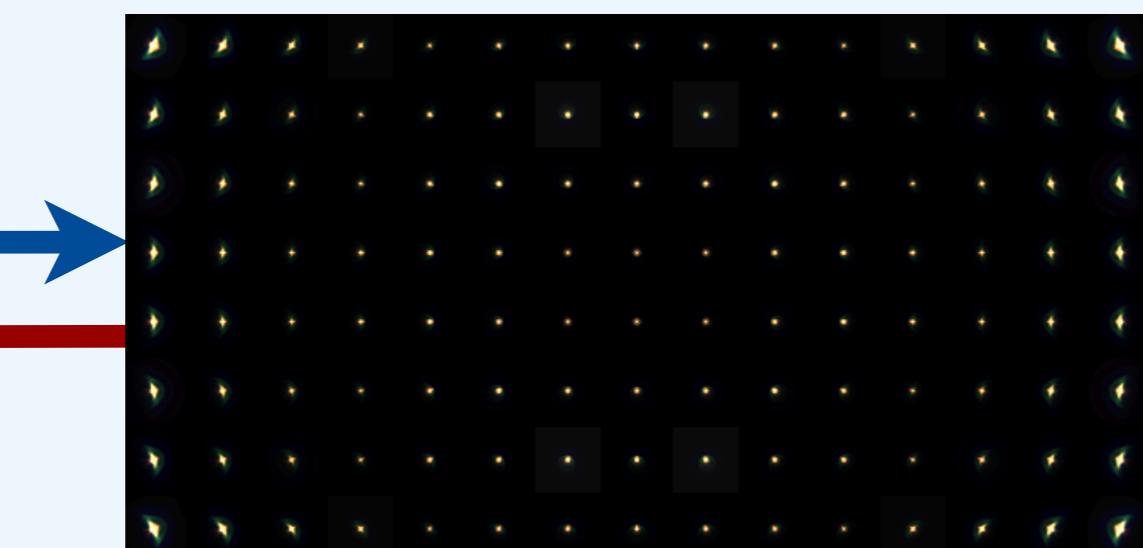
Yes

EPJO

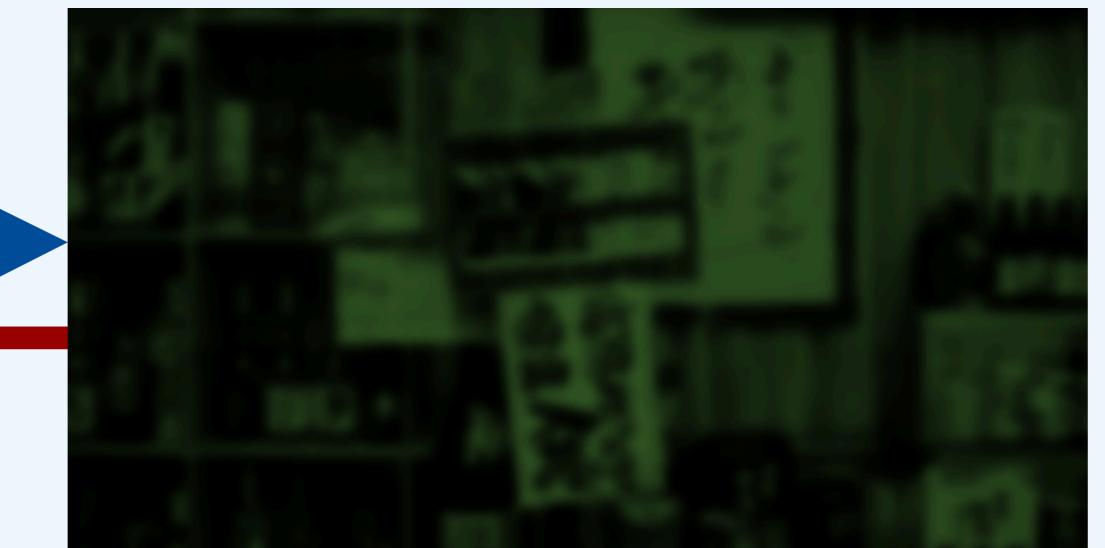
Optical System



Differentiable Ray Tracing



Aberrated Raw Image

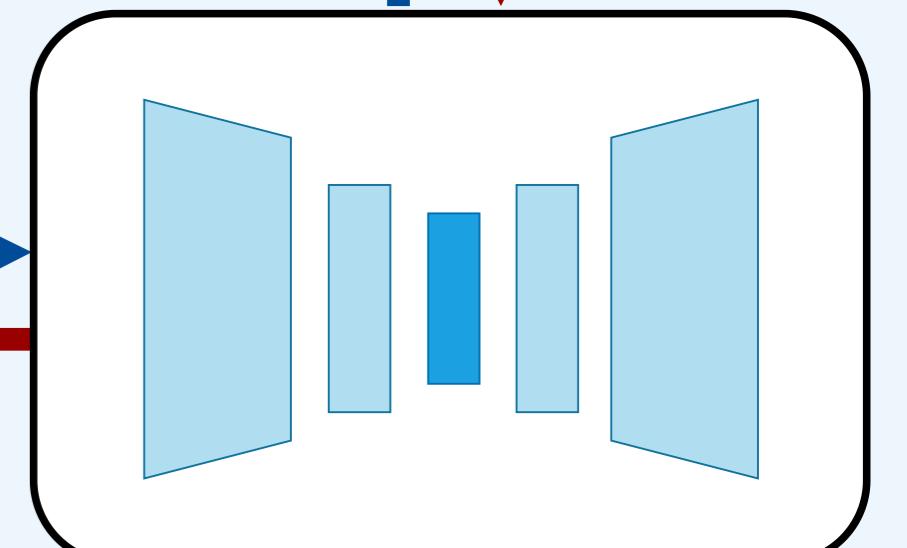


- Forward (no AD)
- Forward (AD)
- Backward

Invert ISP



Loss Function



Reconstruction Model