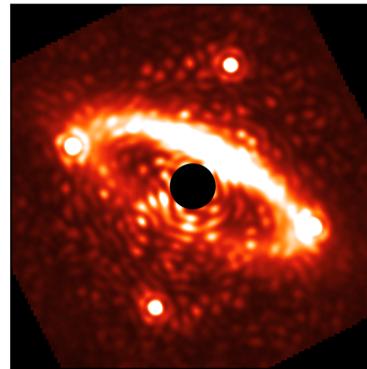


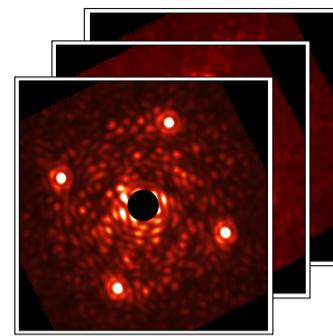
RDI Data

$$I = I_* + I_C$$



Target Image
(star + disk light)

$$\mathcal{R} \quad \{R_1, R_2, \dots\}$$



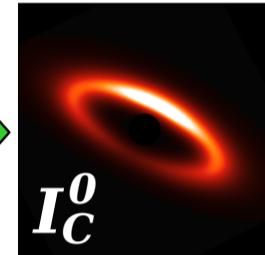
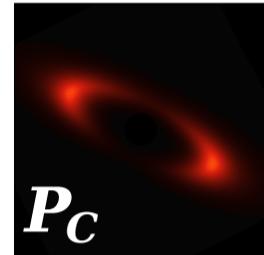
Reference Images
(starlight only)

Conventional RDI



PI-Constrained RDI

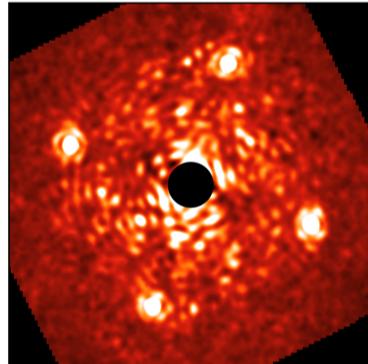
Use disk PI to est. its total intensity



Build a model (\mathcal{M}) of the starlight in I as the linear combo of $\{R_1, R_2, \dots\}$ that...

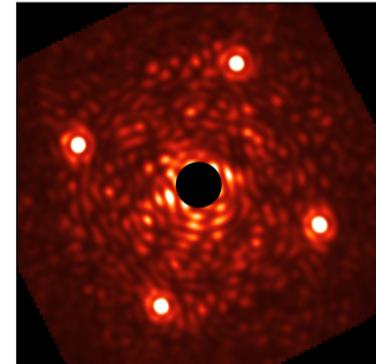
... best matches I :

$$\mathcal{M}(I, \mathcal{R})$$

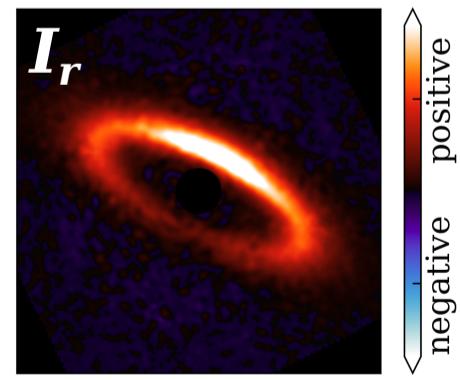
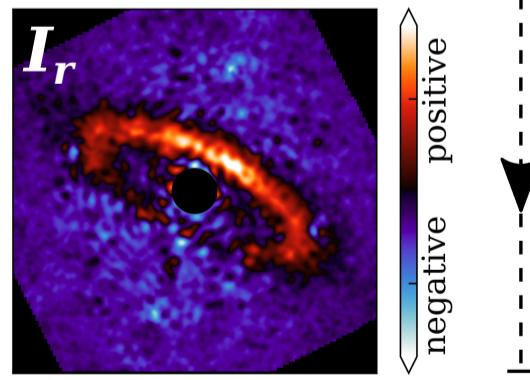


... best matches $I - I_C^0$:

$$\mathcal{M}(I - I_C^0, \mathcal{R})$$



Subtract model from data: $I_r = I - \mathcal{M}$



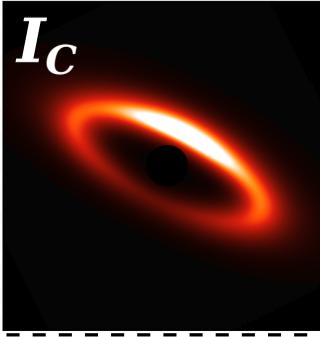
(ideal result)



RDI result

Oversubtraction
from fitting
starlight (\mathcal{R}) to
star+disk light (I)

$$I_r < I_C$$



PCRDI result

Fitting to $I - I_C^0$
provides a better
model of I_*

$$I_r \sim I_C$$