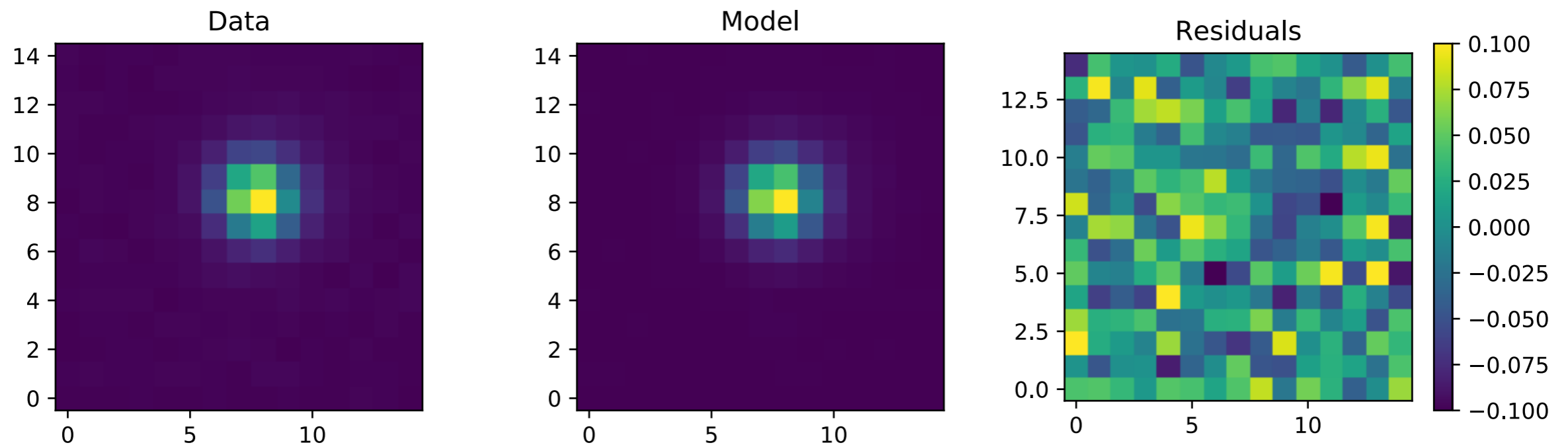


Using PIFF

Ingredients :

Model : PixelGrid, oversampling = 1 **3rd order interpolation over a quadrant**

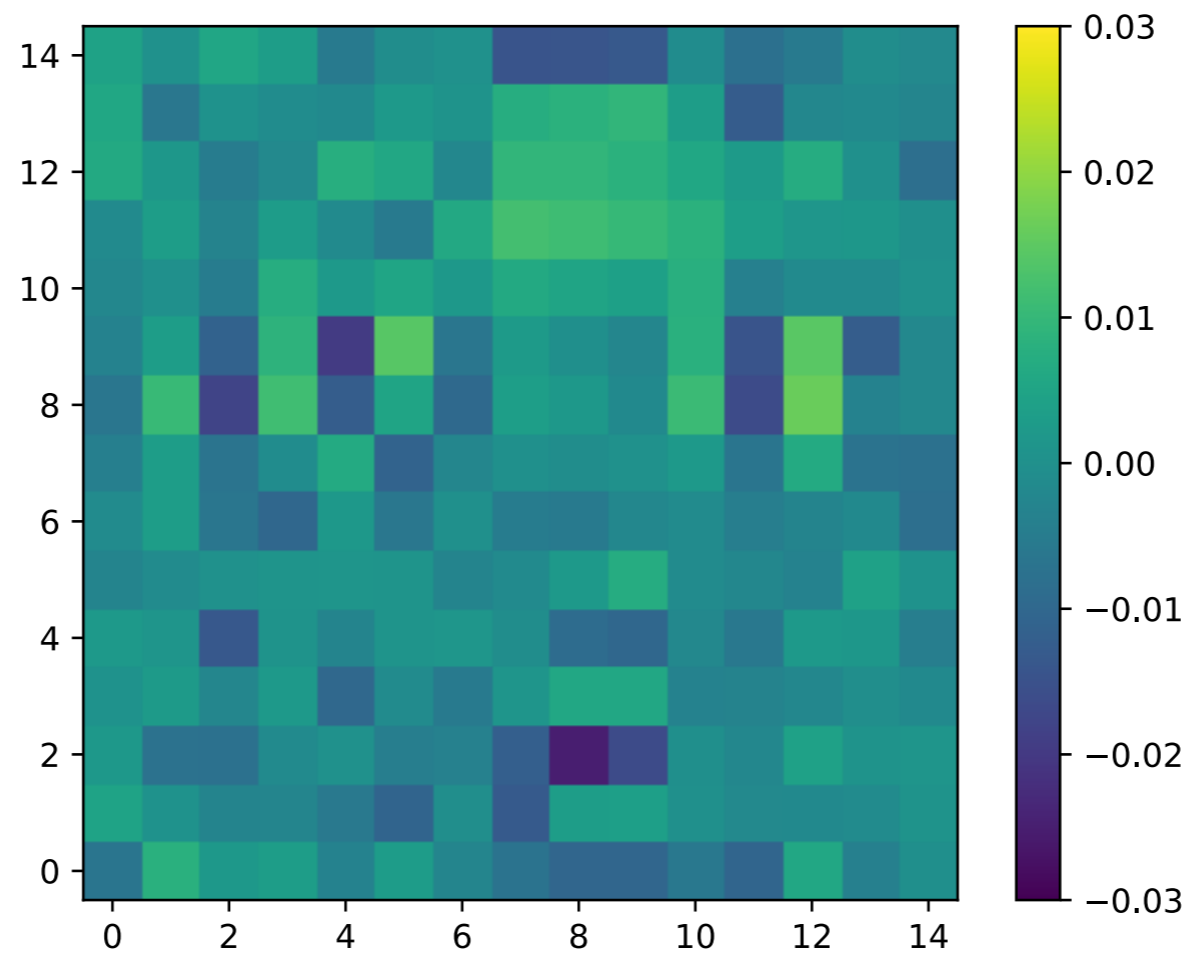
Calibrators : 200 isolated stars from Gaia (per quadrant)
with $13 < G_{\text{mag}} < 16$



CCD : 7 ; Quadrant : 1 ; Filter : 'g' ; Date : 01 - 03 - 2019

Using PIFF

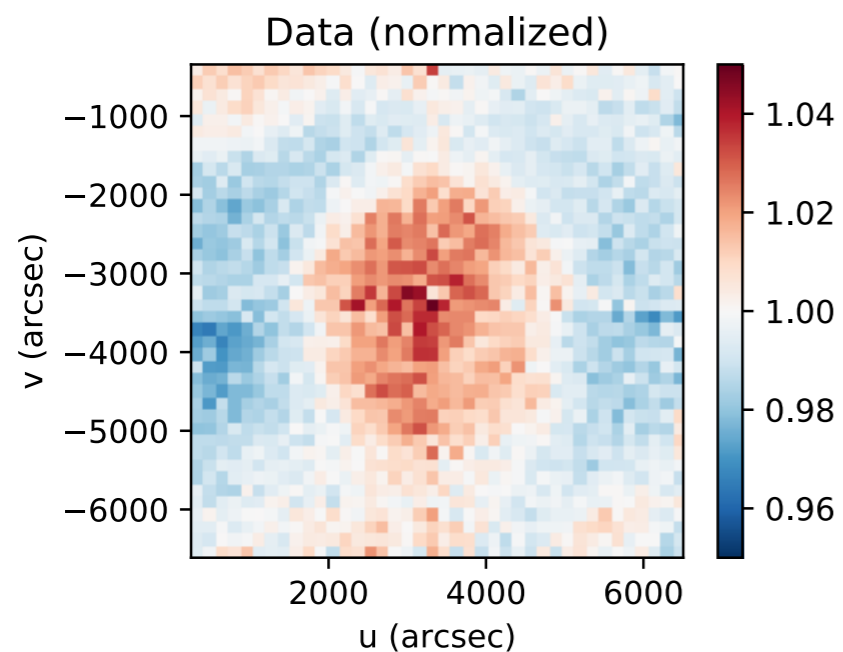
Mean normalized flux residual on calibrators :



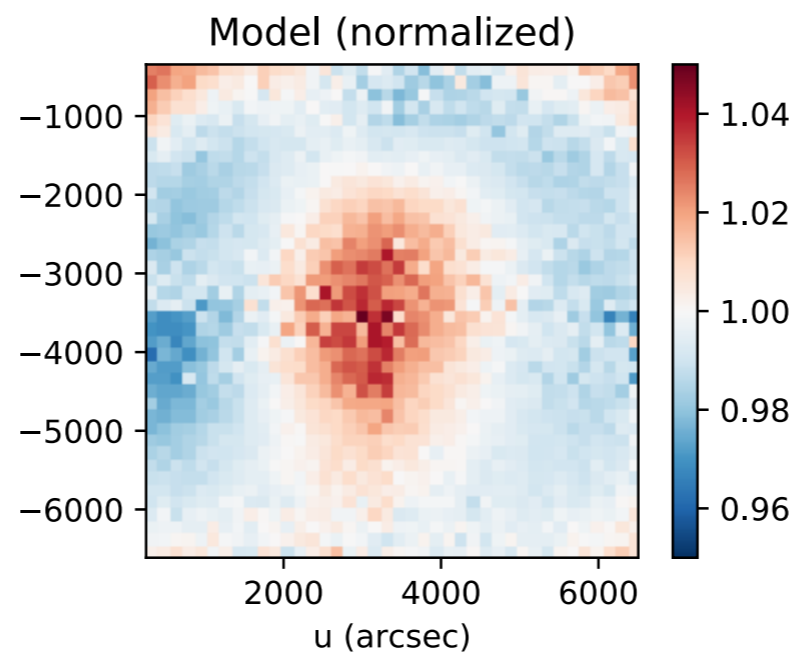
CCD : 7 ; Quadrant : 1 ; Filter : 'g' ; Date : 01 - 03 - 2019

PSF size as quality estimator

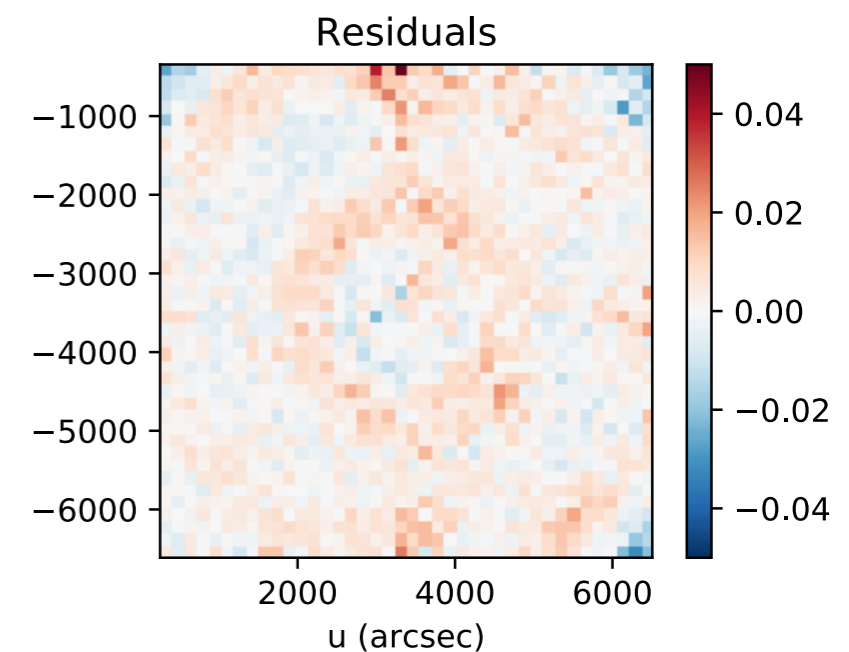
Size of the observed PSF



**Size of the modeled PSF
3rd order interpolation**



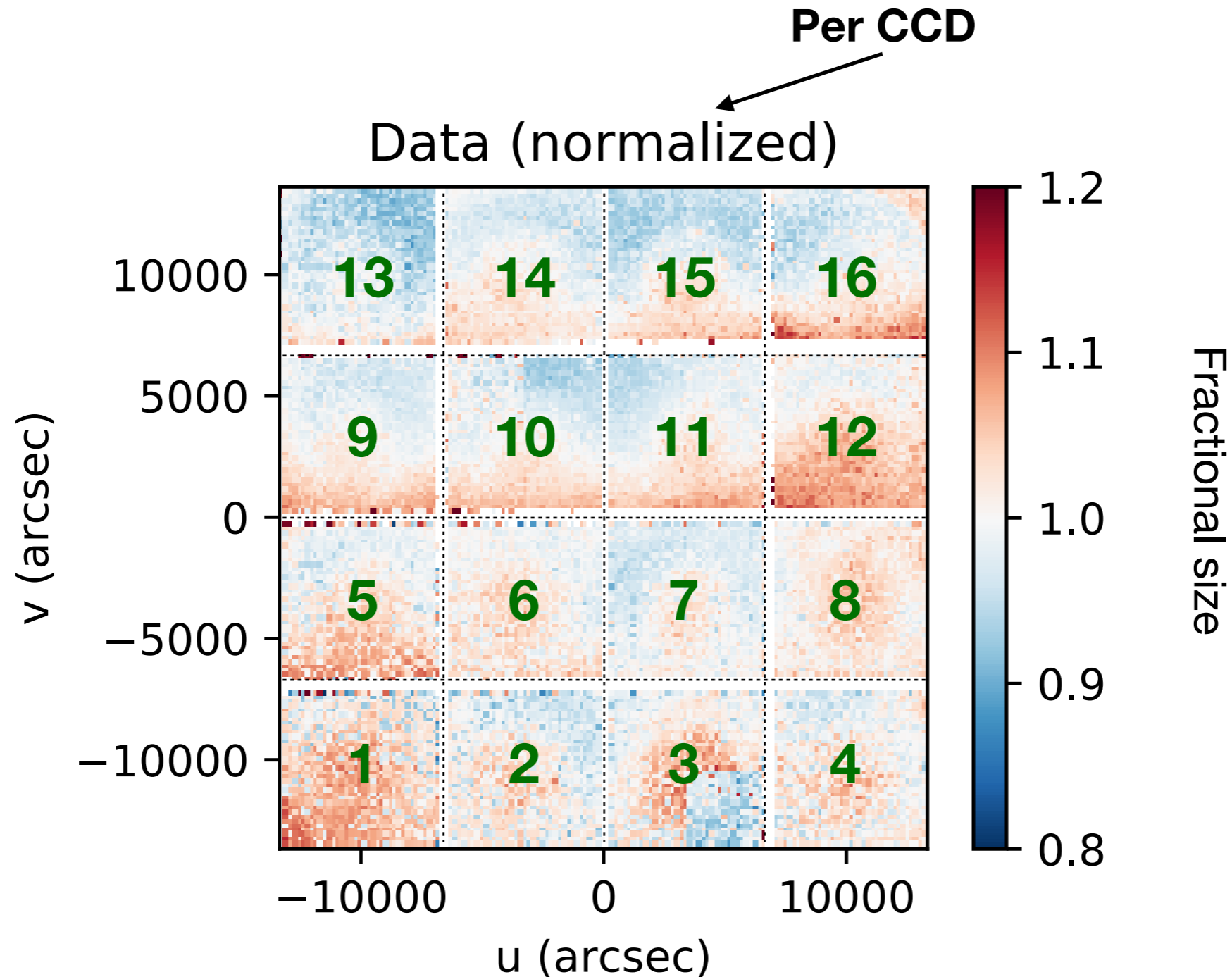
Residuals



CCD : 7 ; All quadrants ; Filter : 'g' ; Date : 01 - 03 - 2019

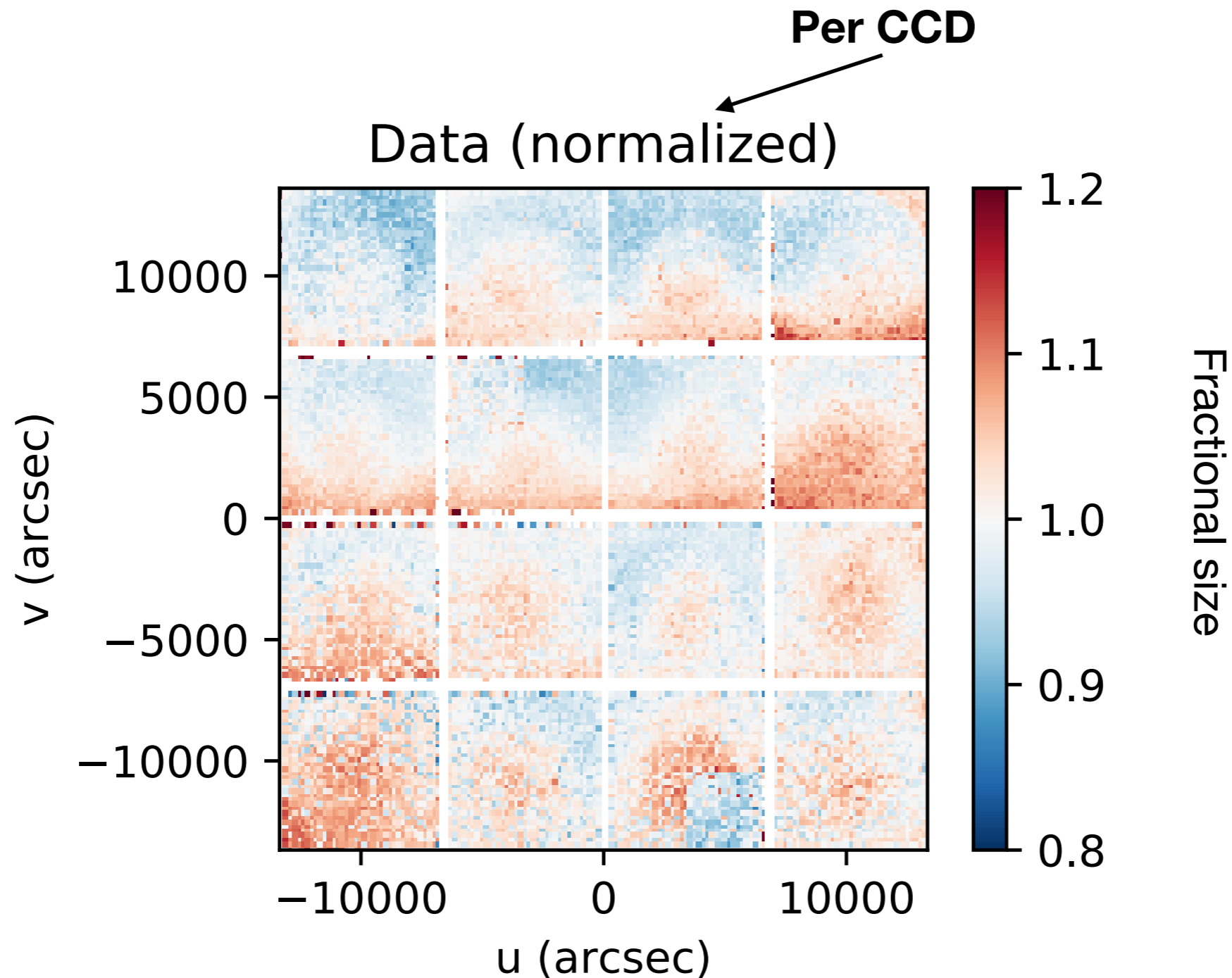
Stack of 2000 stars x x 4 quadrants x 39 exposures

Over the full focal plane



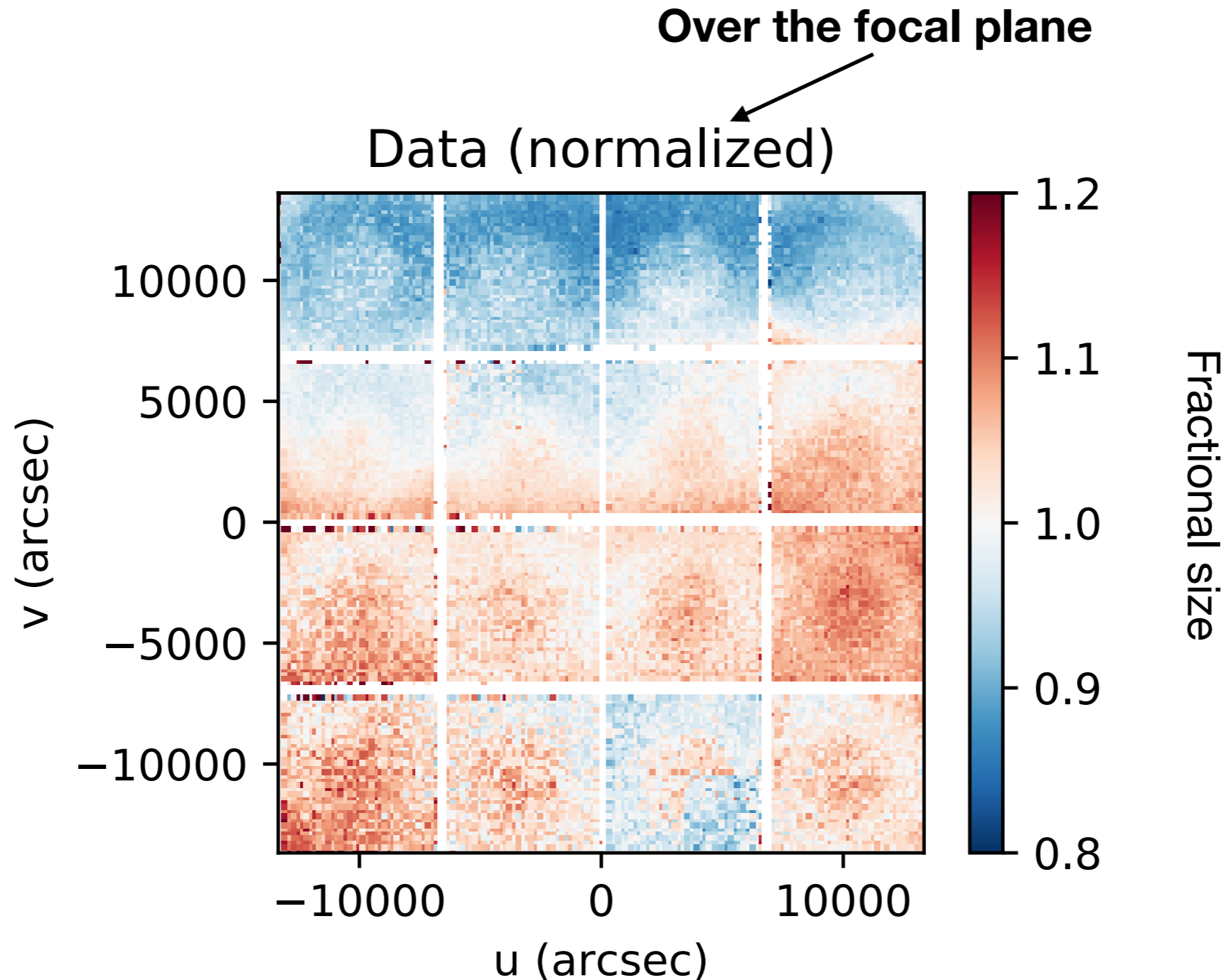
CCD : 7 ; All quadrants ; Filter : 'g' ; Date : 01 - 03 - 2019
Stack of 2000 stars x 39 exposures x 64 quadrants

Over the full focal plane



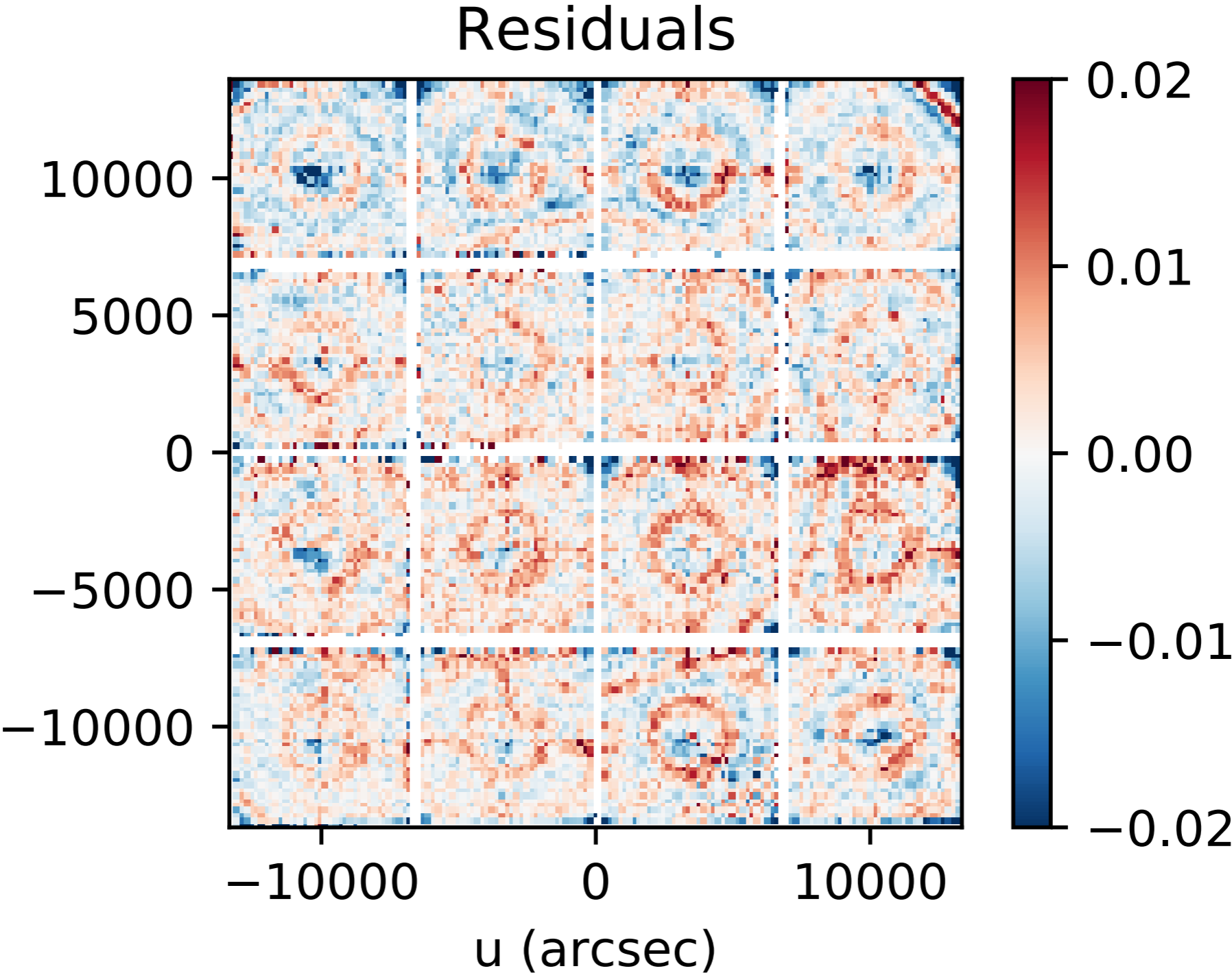
CCD : 7 ; All quadrants ; Filter : 'g' ; Date : 01 - 03 - 2019
Stack of 2000 stars x 39 exposures x 64 quadrants

Over the full focal plane

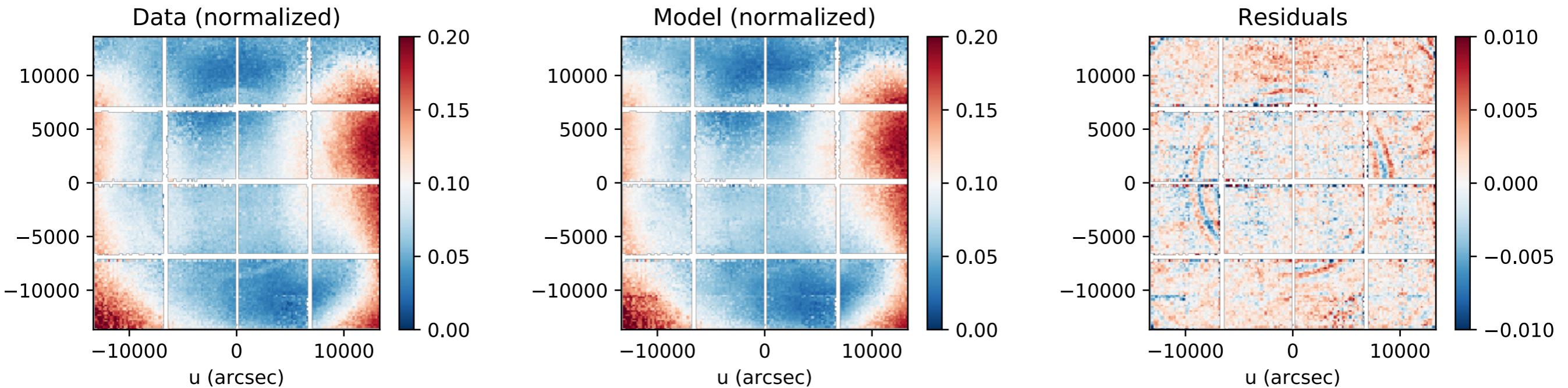


CCD : 7 ; All quadrants ; Filter : 'g' ; Date : 01 - 03 - 2019
Stack of 2000 stars x 39 exposures x 64 quadrants

Residuals over the full focal plane



Residuals over the full focal plane: Ellipticity γ



Effect of lensing

- isotropic magnification (**convergence κ**)
- anisotropic stretching (**shear γ**)

Shear transforms a circle into an ellipse.
Define complex **ellipticity**

$$\gamma = \gamma_1 + i\gamma_2 = |\gamma|e^{2i\varphi};$$

$$|\gamma| = |1 - \kappa| \frac{1 - b/a}{1 + b/a}$$

