On the sky:
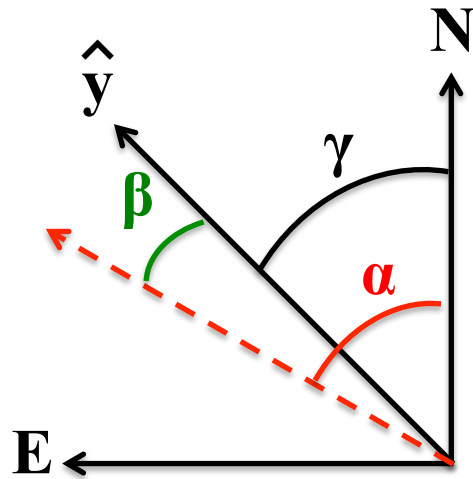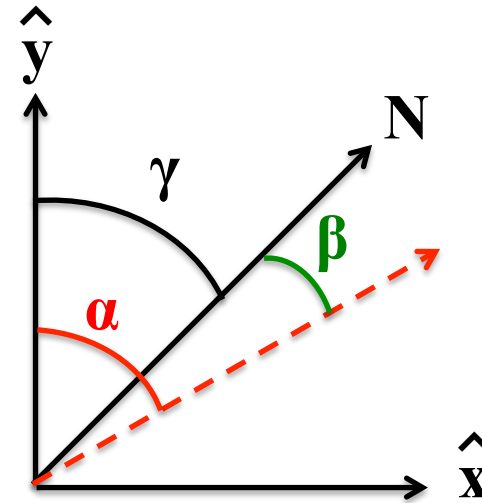

On the detector:

$$\gamma = \alpha - \beta$$

$$\alpha = \text{ROTPOSN - INSTANGL}$$
$$\beta = 0.252° \pm 0.009°$$

NIRC2 PA is defined as the angle of the NIRC2 y-axis on the sky measured east of North. The True NIRC2 PA = ROTPOSN - INSTANGL - 0.252°.

Example #1: For ROTPOSN - INSTANGL = 0, rotate your NIRC2 image by 0.252° clockwise to get North up.

Example #2: For a specified PA (ROTPOSN-INSTANGL) of α, rotate your NIRC2 image by α - 0.252° counterclockwise to get North up.

Yelda et al. (2010)