Contribution ID: **12**             Type: **not specified**

# Data processing on simulated data for SHARK-NIR

A robust post processing technique is mandatory to analyse the coronagraphic high contrast imaging data. Angular Differential Imaging (ADI) and Principal Component Analysis (PCA) are the most used approaches to suppress the quasi-static structure in the Point Spread Function (PSF) in order to revealing planets at different separations from the host star. The focus of this work is to apply these two data reduction techniques to obtain the best limit detection for each coronagraphic setting that has been simulated for the SHARK-NIR, a coronagraphic camera that will be implemented at the Large Binocular Telescope (LBT). We investigated different seeing conditions (0.4"– 1") for stellar magnitude ranging from R=6 to R=14, with particular care in finding the best compromise between quasi-static speckle subtraction and planet detection.

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