Possible contributions to the NEAT simulations

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Denoising at the image level

• On going brown-dwarf parallax project using advanced de-noising methods.

• Preliminary results indicate that these methods improve individual astrometric measurements at each epoch by more than 25%. Also largely improve object detection at the faint end.

[image example in next slide]
Denoising at the time-series analysis level

- Haven’t started to study this, but we can do it for NEAT.

Time-series analysis based on sparsity concepts

- Not started yet, but we are planing to apply such concept in the following years for analyzing asteroseismological (and naturally, exoplanet) data.