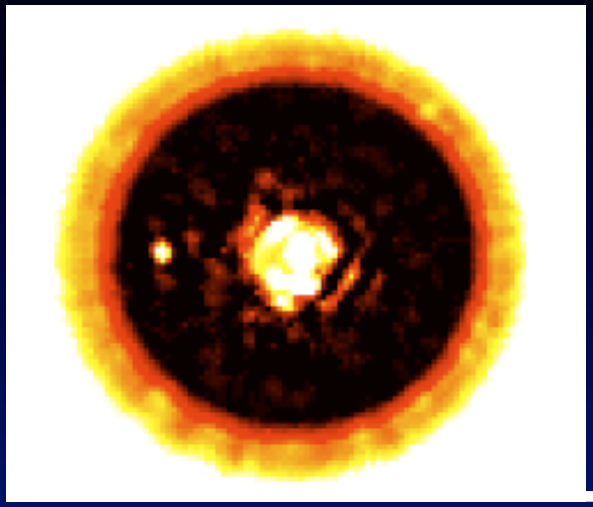
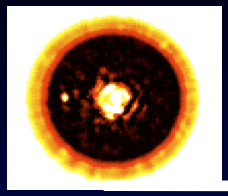


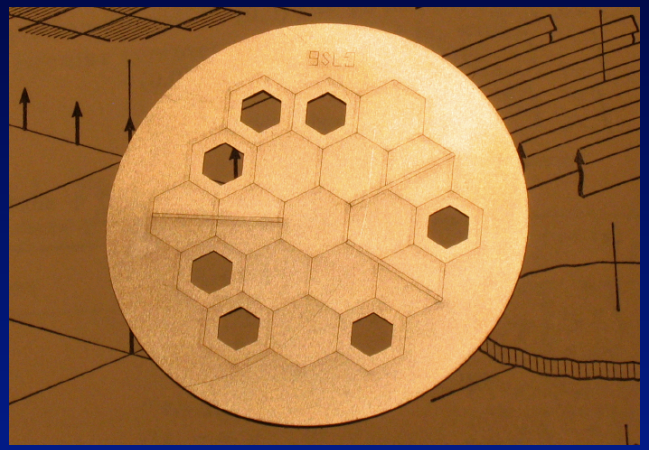
Laurent Pueyo

Characterization of exo-planets via Non Redundant Aperture Masking and advanced starlight supression techniques.

Sagan Post Doctoral Fellow, 2010



Non Redunant Aperture Masking



Shivaramakrisnan et.al (2009)

NRM: a high angular resolution technique

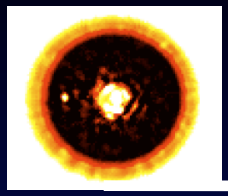
- Exploration of the close vicinity of nearby stars
- Constraining the structure of planet forming systems

NRM on Gemini Planet Imager:

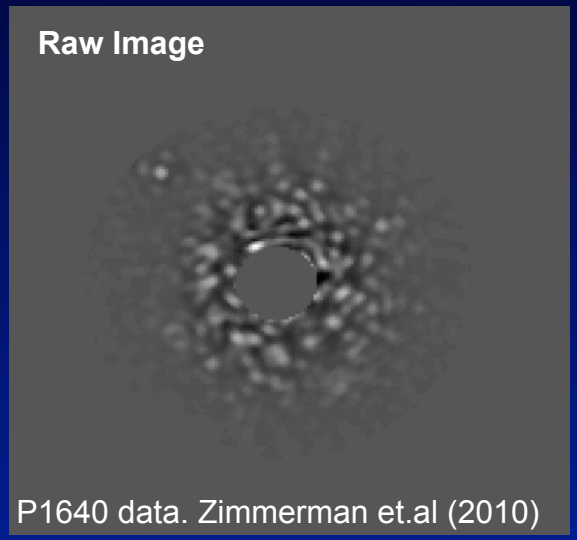
- Extreme Adaptive Optics provide exquisite wavefront stability.

- Dispersed fringes will allows us spectral characterization and refined subtraction methods.

Kotani et.al (2009)



Advanced Image Reduction techniques



P1640 data. Zimmerman et.al (2010)

GPI: high contrast imaging instrument

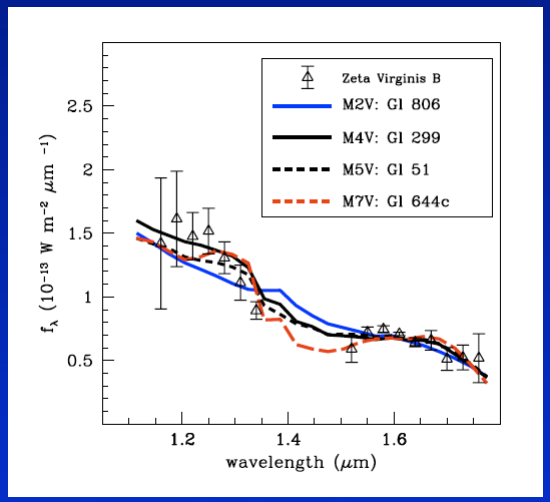
- Extreme Adaptive Optics provide high contrast images

- High dynamic range exploration of the vicinity of nearby stars

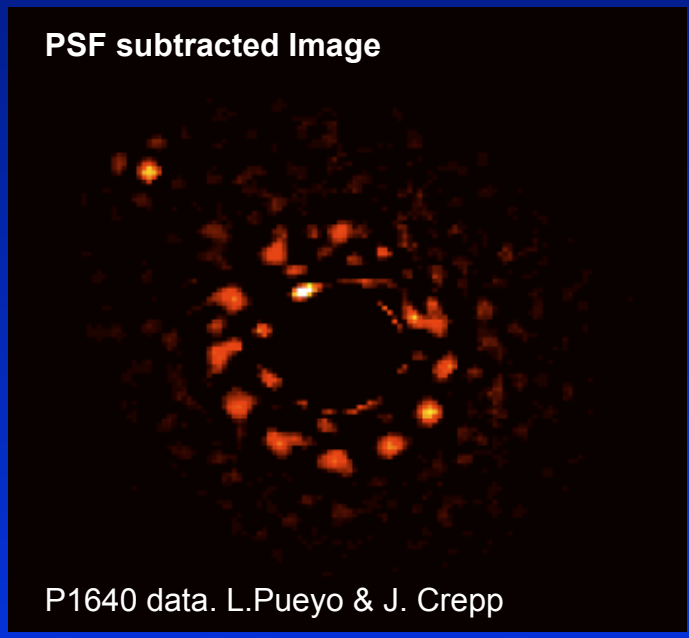
Integral Field Spectrograph:

- Spectral characterization of detected companions

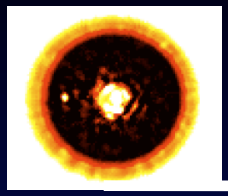
- Color diversity enables advanced image subtraction techniques



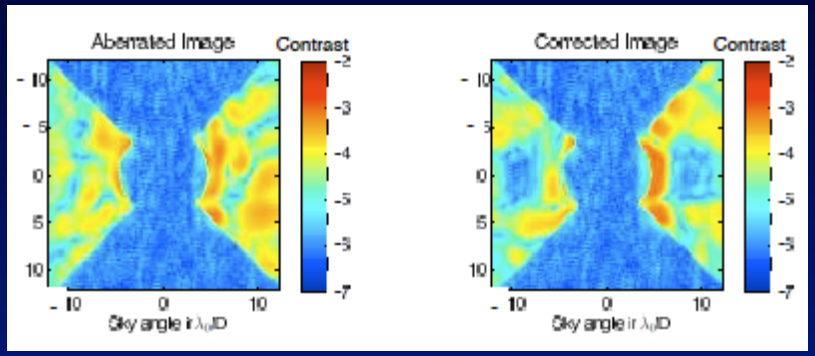
Hinkley et.al (2010)



P1640 data. L.Pueyo & J. Crepp



Coherent Starlight Suppression



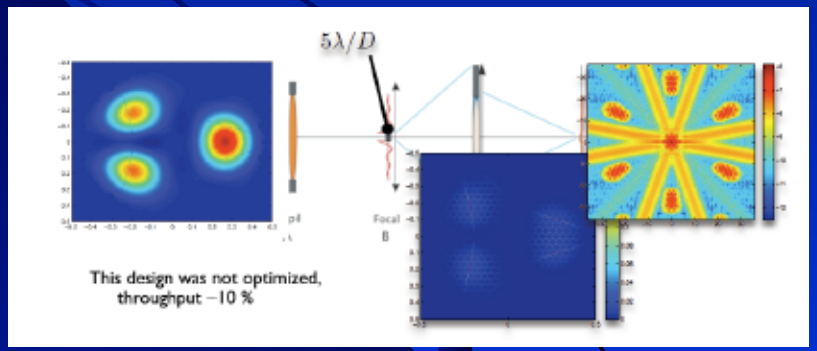
Pueyo et.al (2009)

Dual DM wavefront control

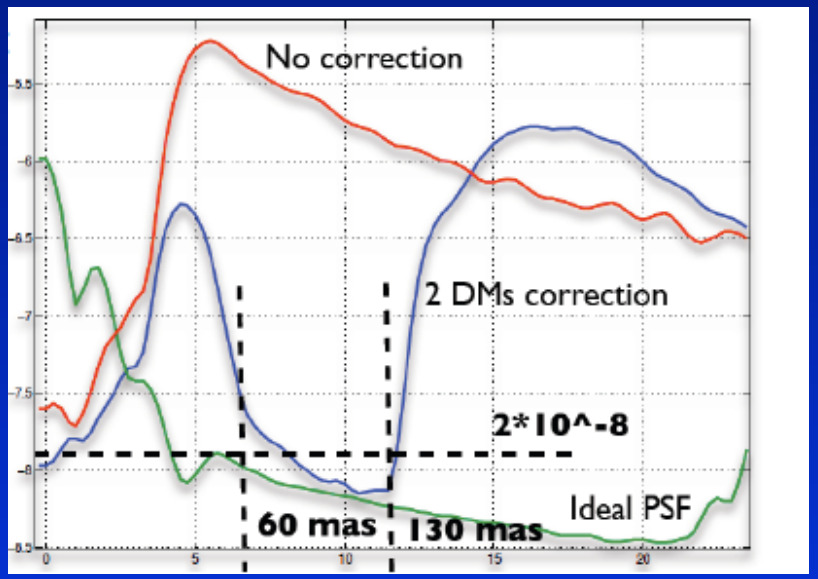
Technology demonstration for broadband high contrast for imaging of exo-earths from a space based observatory

Application to Extremely Large Telescopes

Design of an exo-planet dedicated instrument for the Thirty Meter Telescope



Soummer et.al (2007), Pueyo et.al (2009)



Pueyo et.al (2009)