

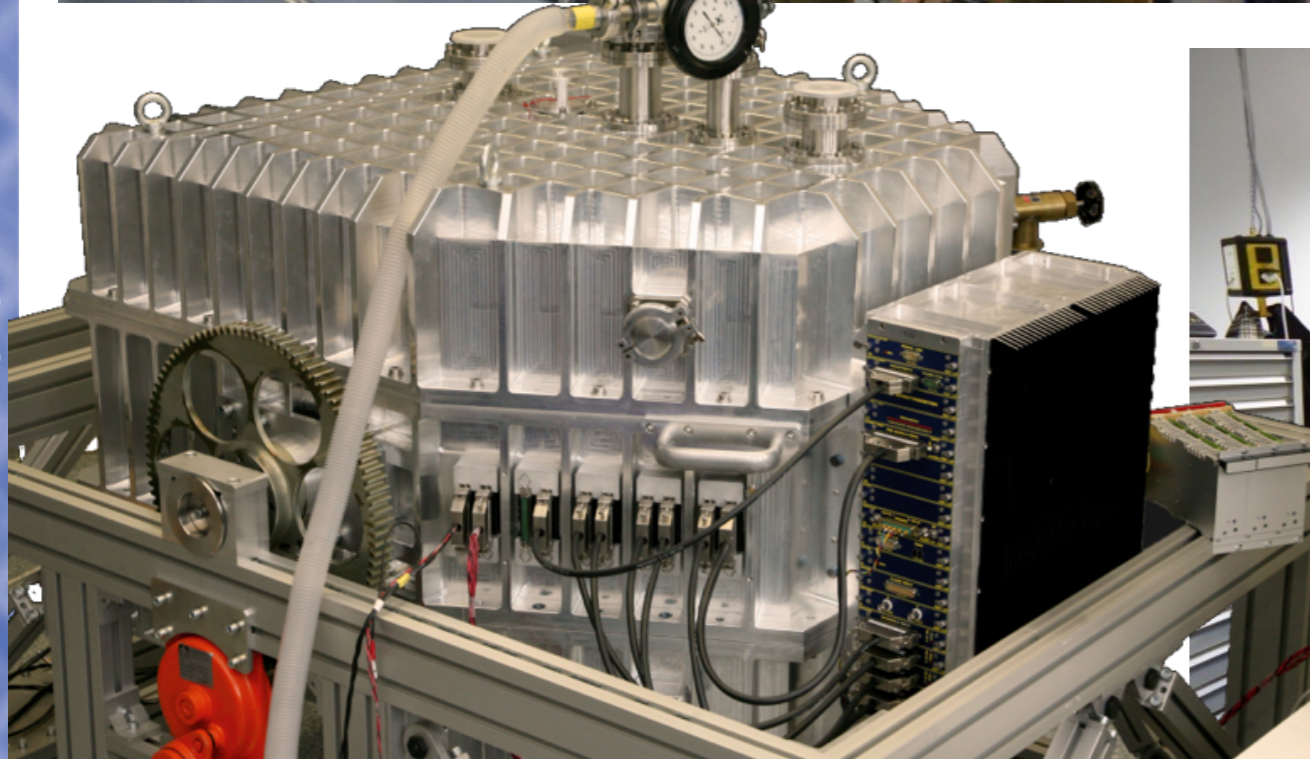
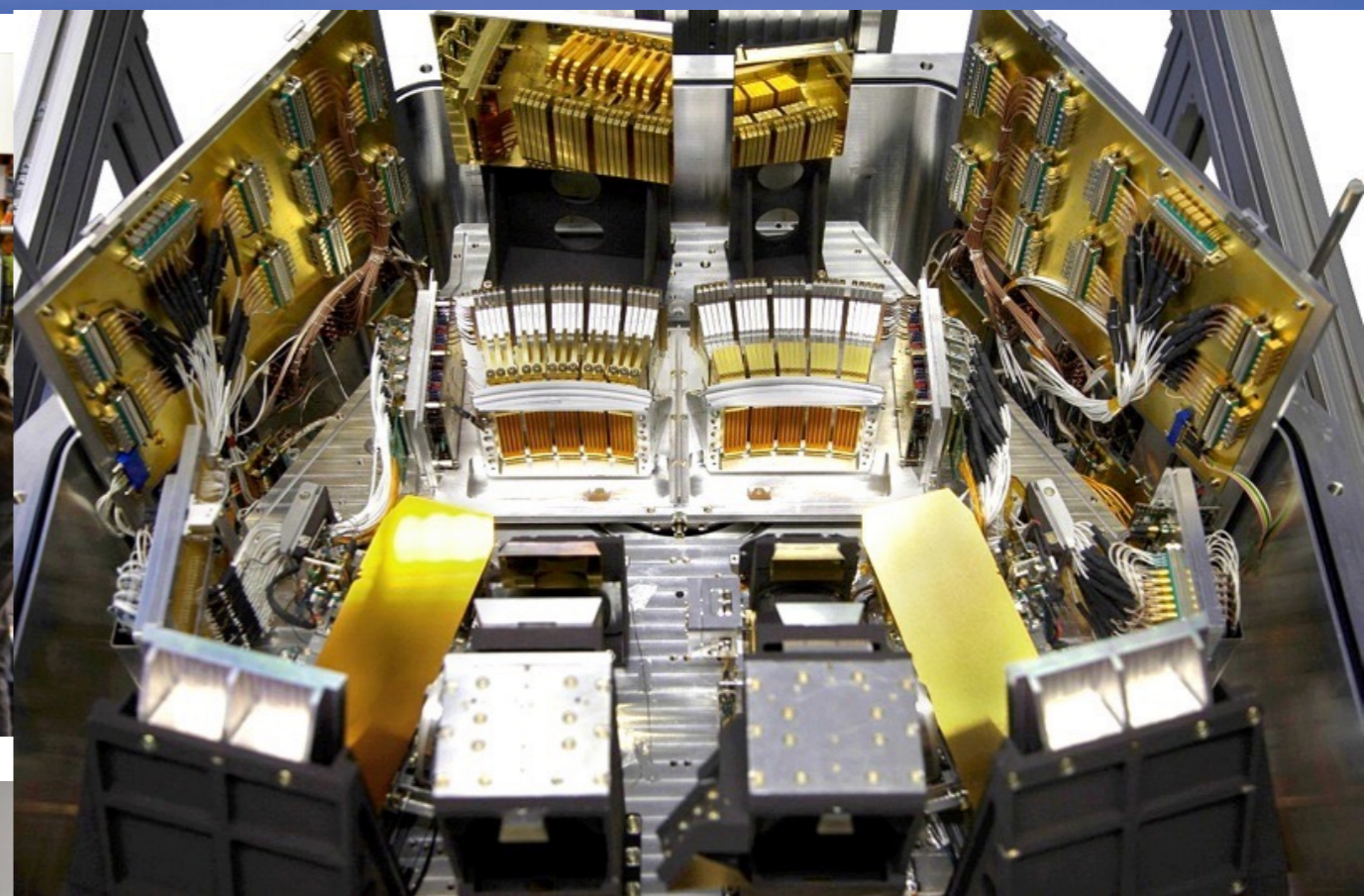


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Field Imaging Far Infrared Line Spectrometer

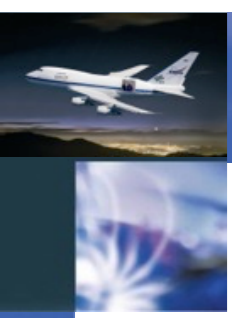


FIFI-LS: Commissioning Results- Randolph Klein



FIFI LS: the Field-Imaging Far-Infrared Line Spectrometer

- Far-infrared spectrometer employing two parallel channels:
 - Blue 50-120 μm
5x5 pixel field of view: 6" per spatial pixel
 - Red 110-200 μm
5x5 pixel field of view: 12" per spatial pixel
- Imaging spectrometer concept
 - Each channel: 5x5 spatial pixels
 - 16 spectral pixels per spatial pixels
- Spectral resolution: $R=1000-3000$



Gefördert durch:
Bundesministerium
für Wirtschaft
und Technologie
aufgrund eines Beschlusses
des Deutschen Bundestages



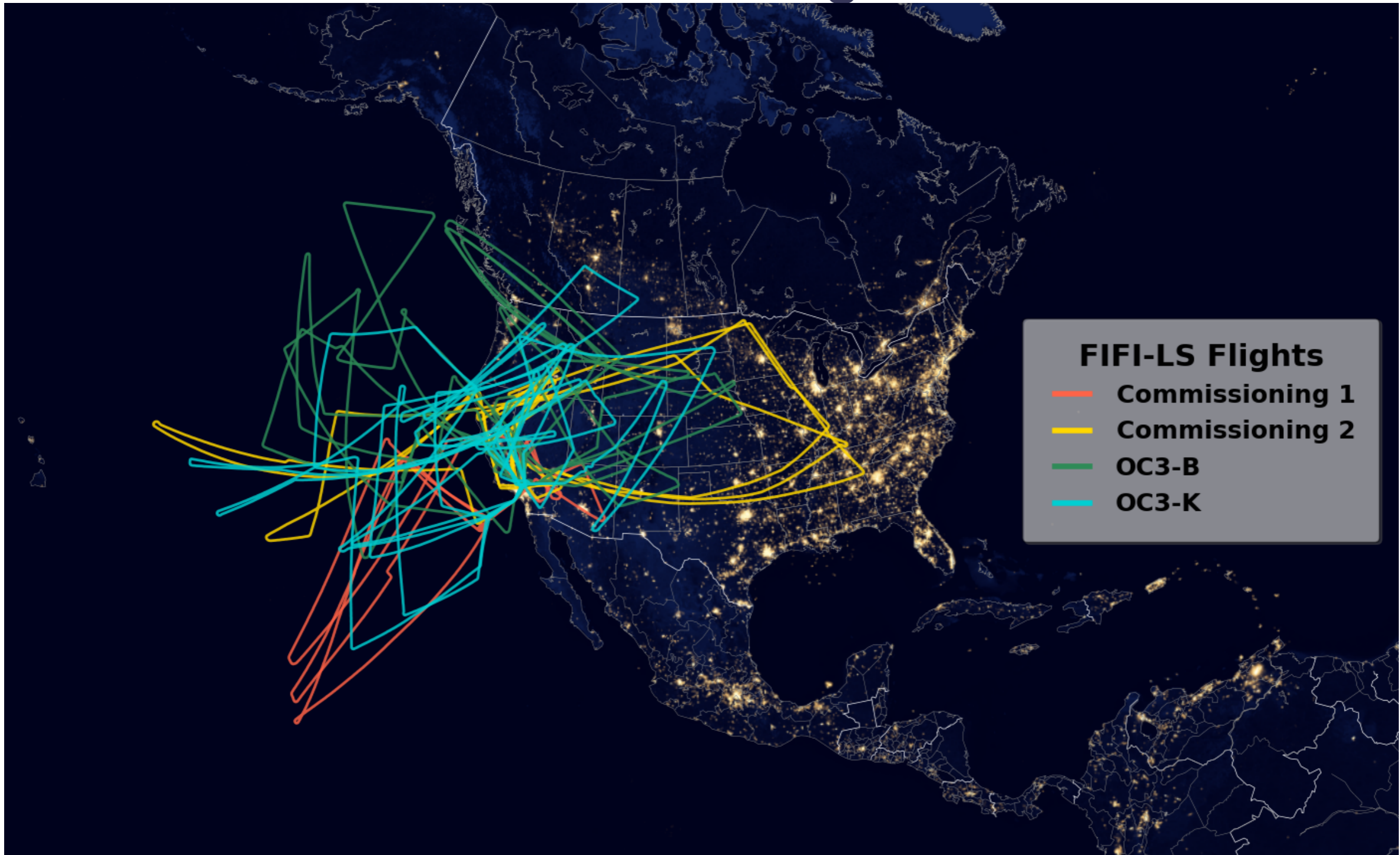
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24 FIFI-LS Flights

Field Imaging Far Infrared Line Spectrometer



Thanks to Ryan Hamilton for the plot



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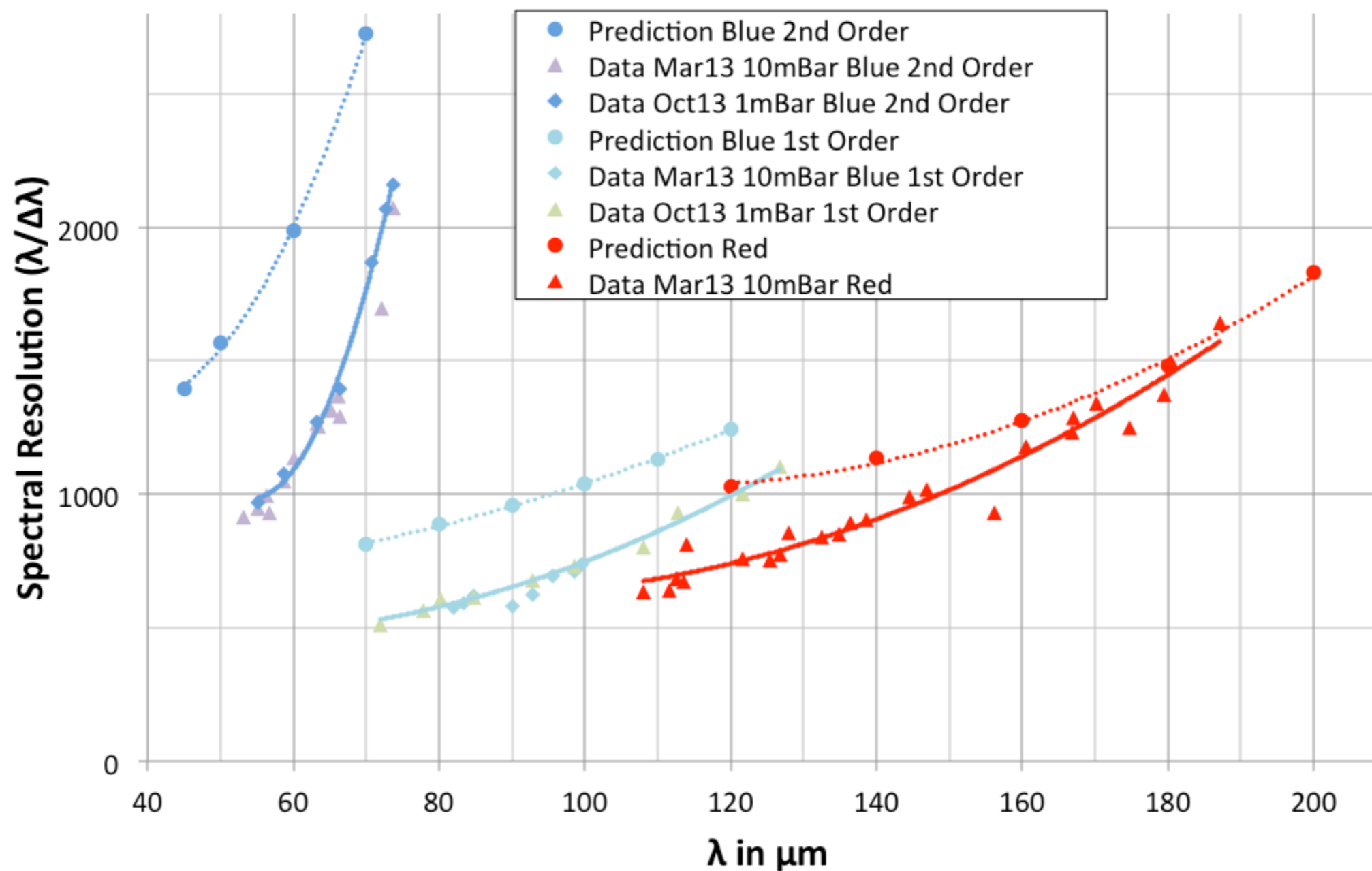
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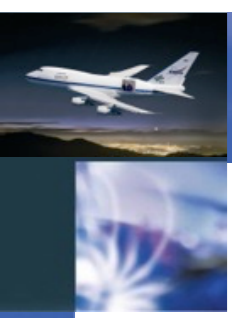


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Spectral Resolution

Spectral Resolution Simulation vs. Lab Results





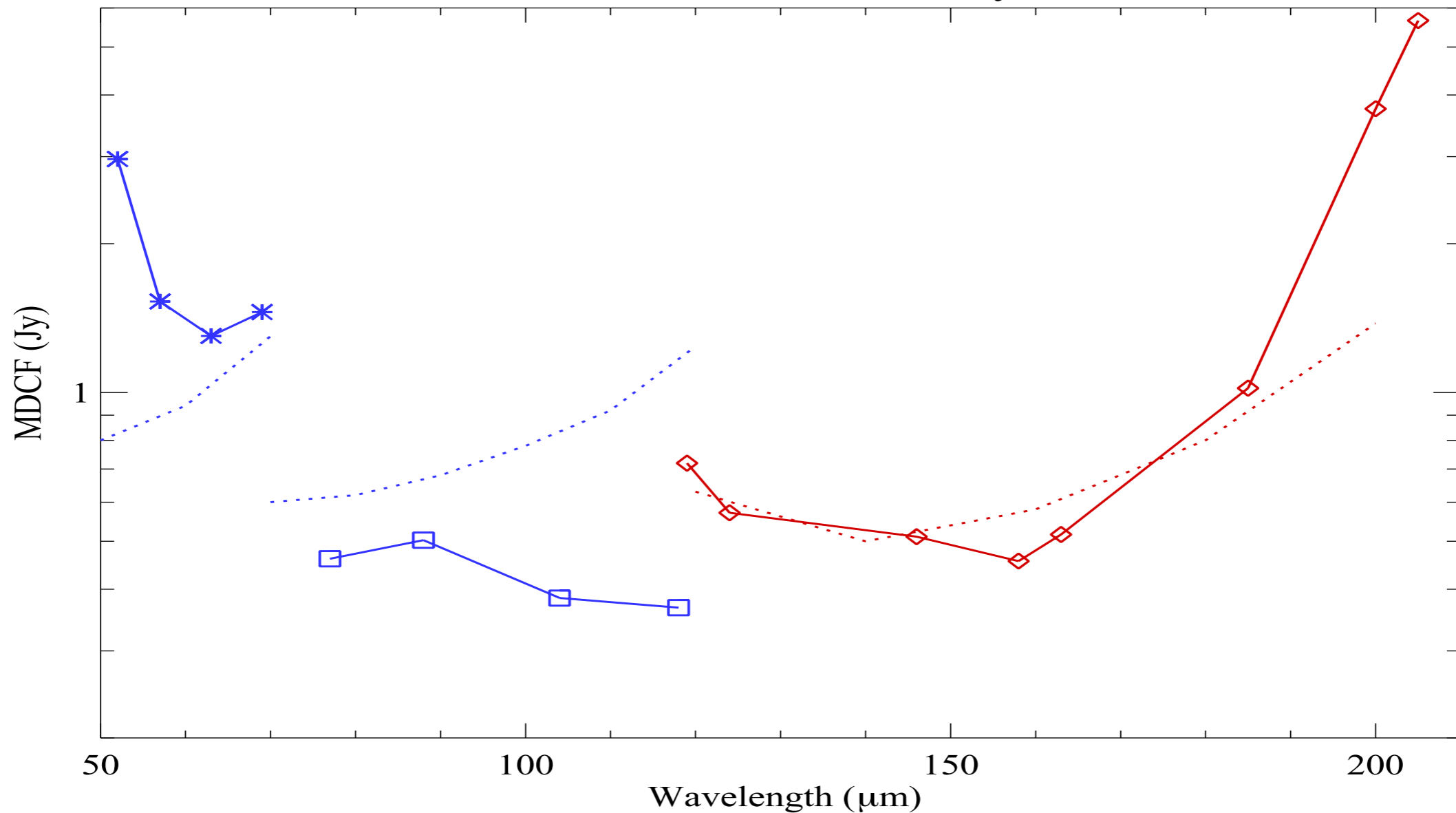
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FIFI-LS Sensitivity

Measured and Predicted Sensitivity Estimates



Sensitivity estimated from background noise

- Dashed: predictions
- Symbols: measurements



Summary

- FIFI-LS is a commissioned and reliable instrument soon to be accepted as a facility instrument.
- FIFI-LS provides unique access to FIR spectral mapping.
- It will be the work horse for **all** ISM cooling lines in
 - Galaxies
broad lines, medium spectral resolution sufficient
 - Mapping large areas, galactic and extra galactic
if high spectral resolution is not required
- About a dozen papers can be expected from Cycle 2 and 3.
- 19 proposals with 105h of FIFI-LS observations were approved for Cycle 4 indicating demand and community support.