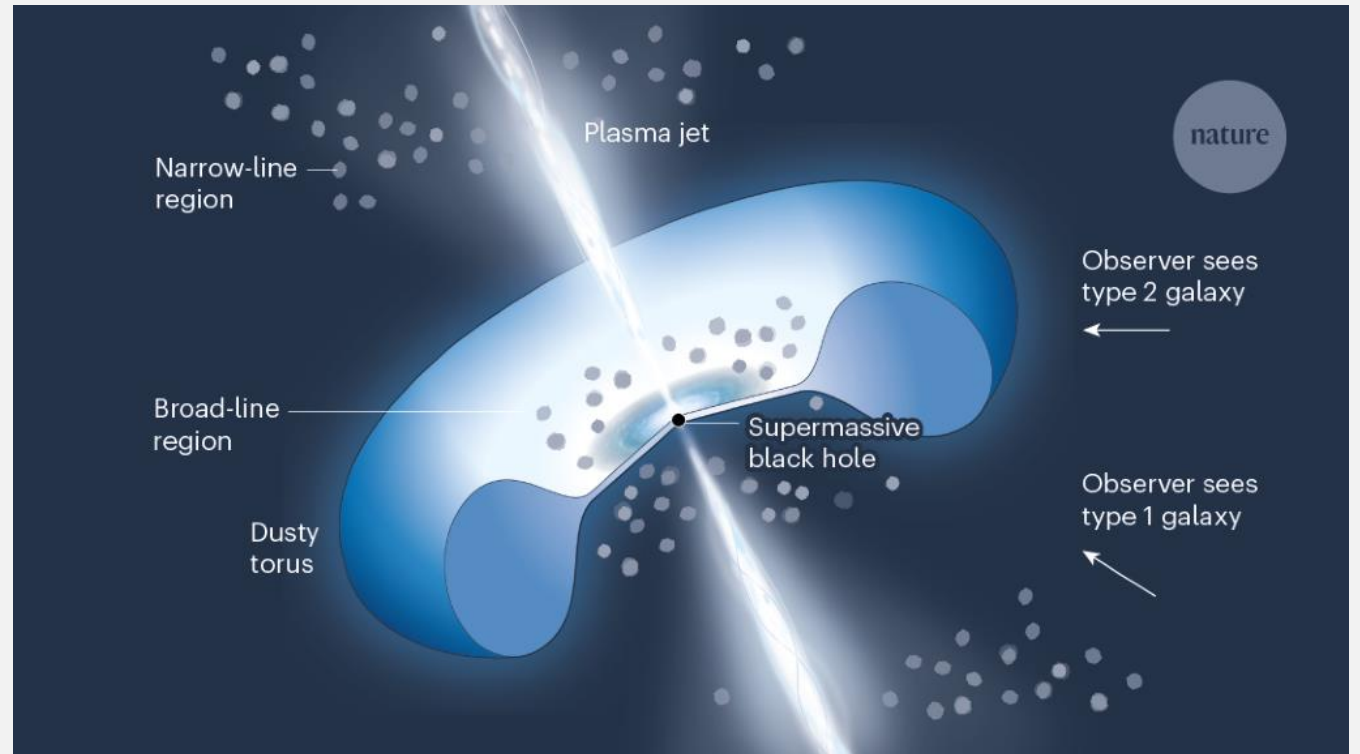


# Data Reduction of Quasar Spectra

Taryn Fambrough  
Dr. Karen Leighly

# Quasar

- Subtype of active galactic nuclei (AGN)
- Supermassive black hole surrounded by an accretion disk
- Emits enough light to outshine the entire surrounding galaxy



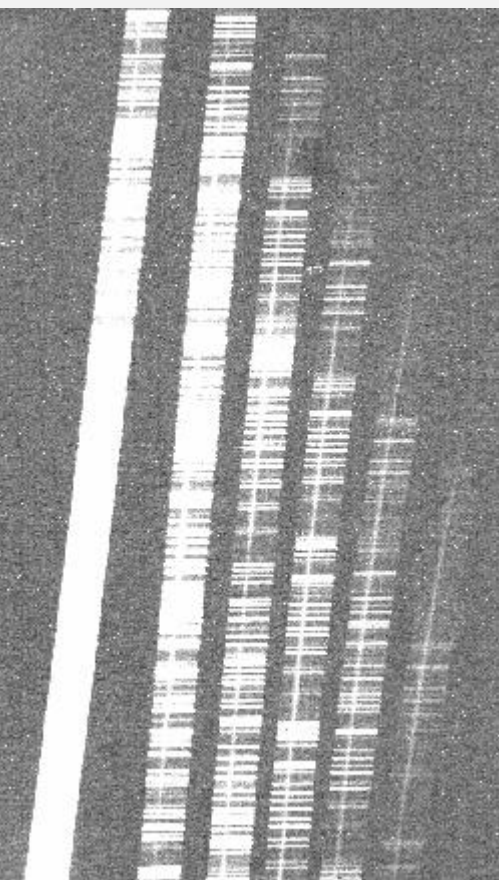
# Observatory

- 8 meter telescope
- Located in Hawaii
- Near the summit of Mauna Kea

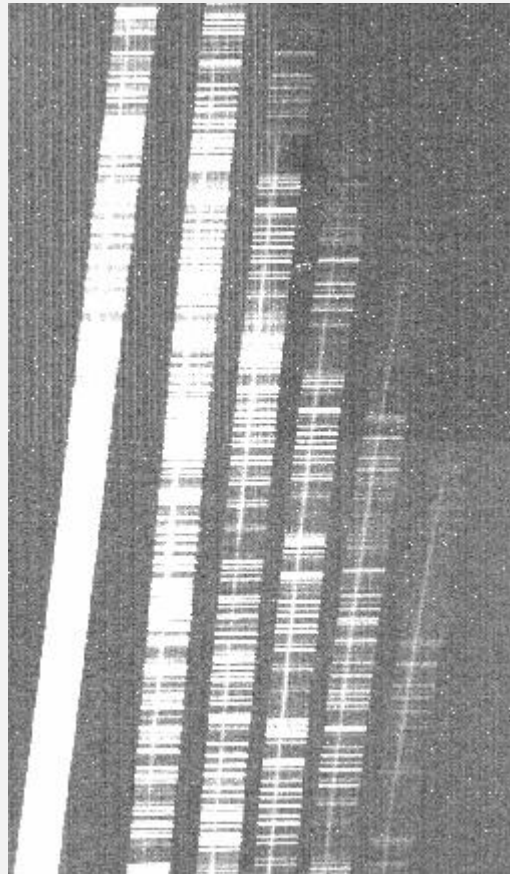


# Cleanir

Target Spectra

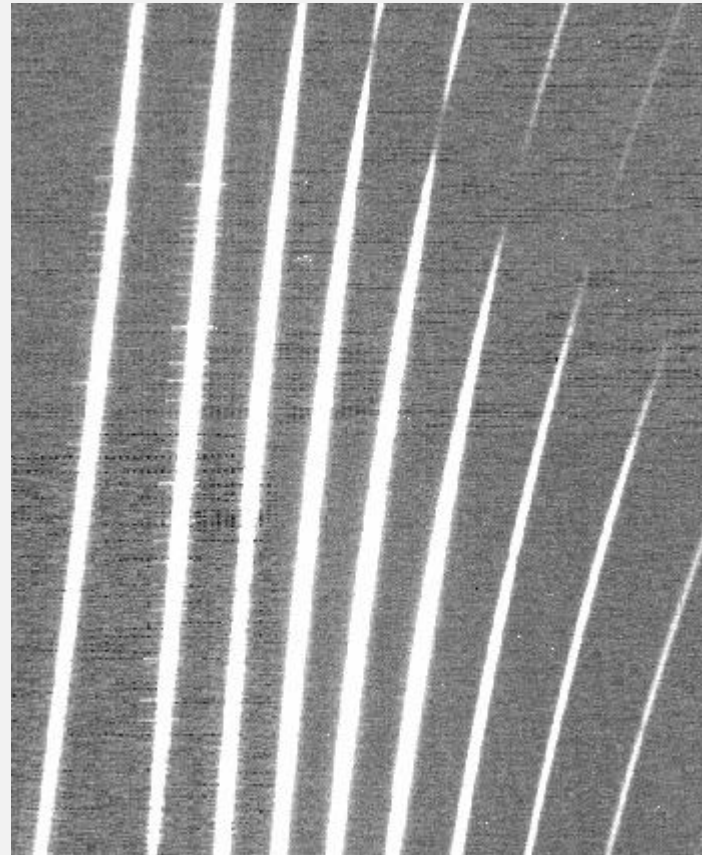


Cleaned

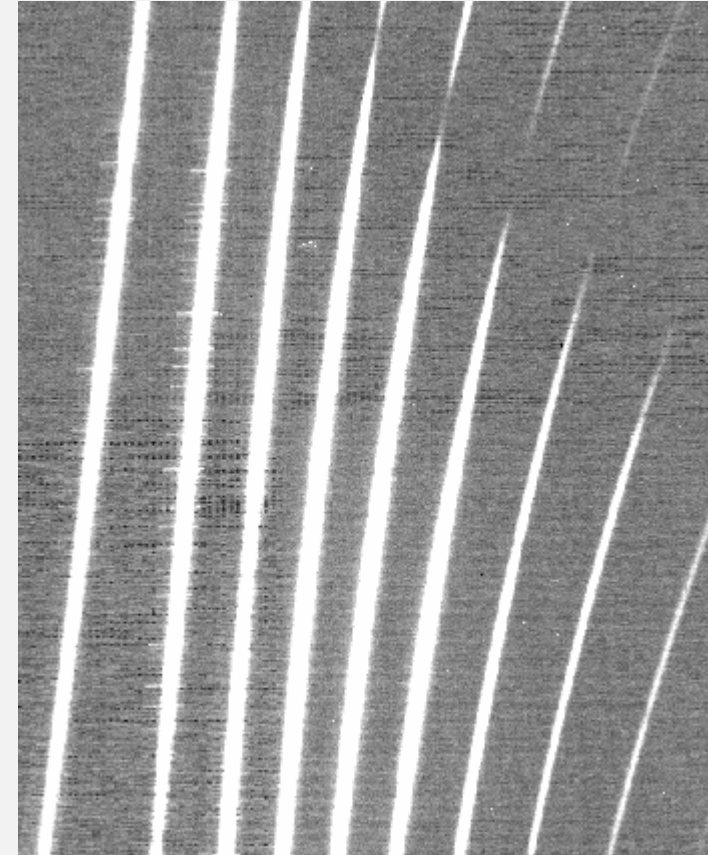


Uncleaned

Star Spectra

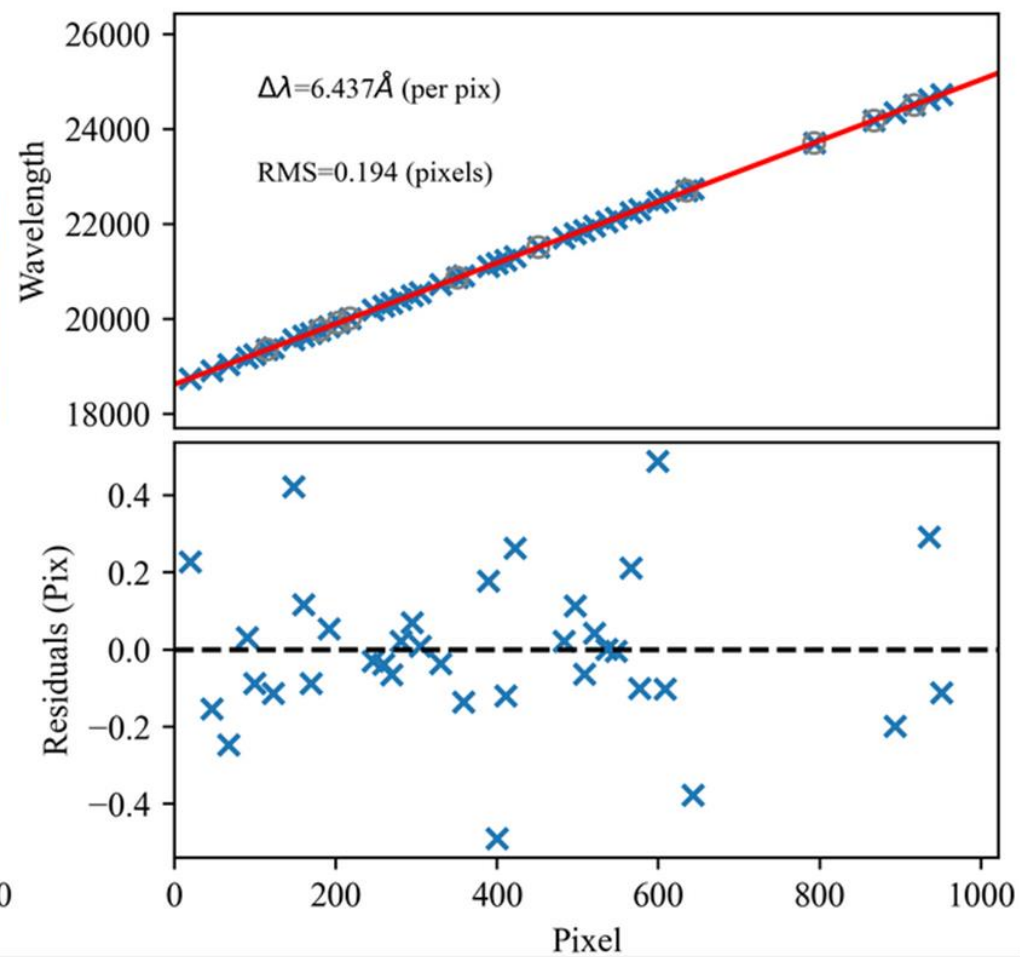
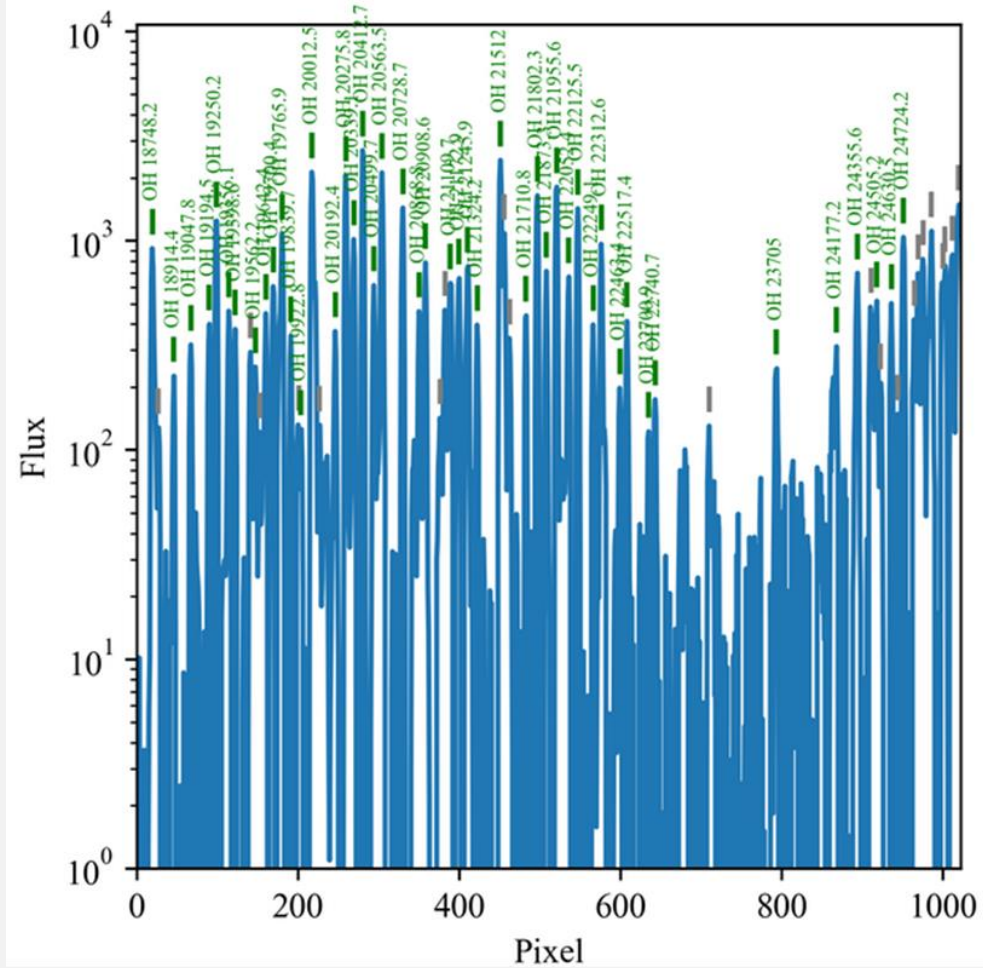


Cleaned

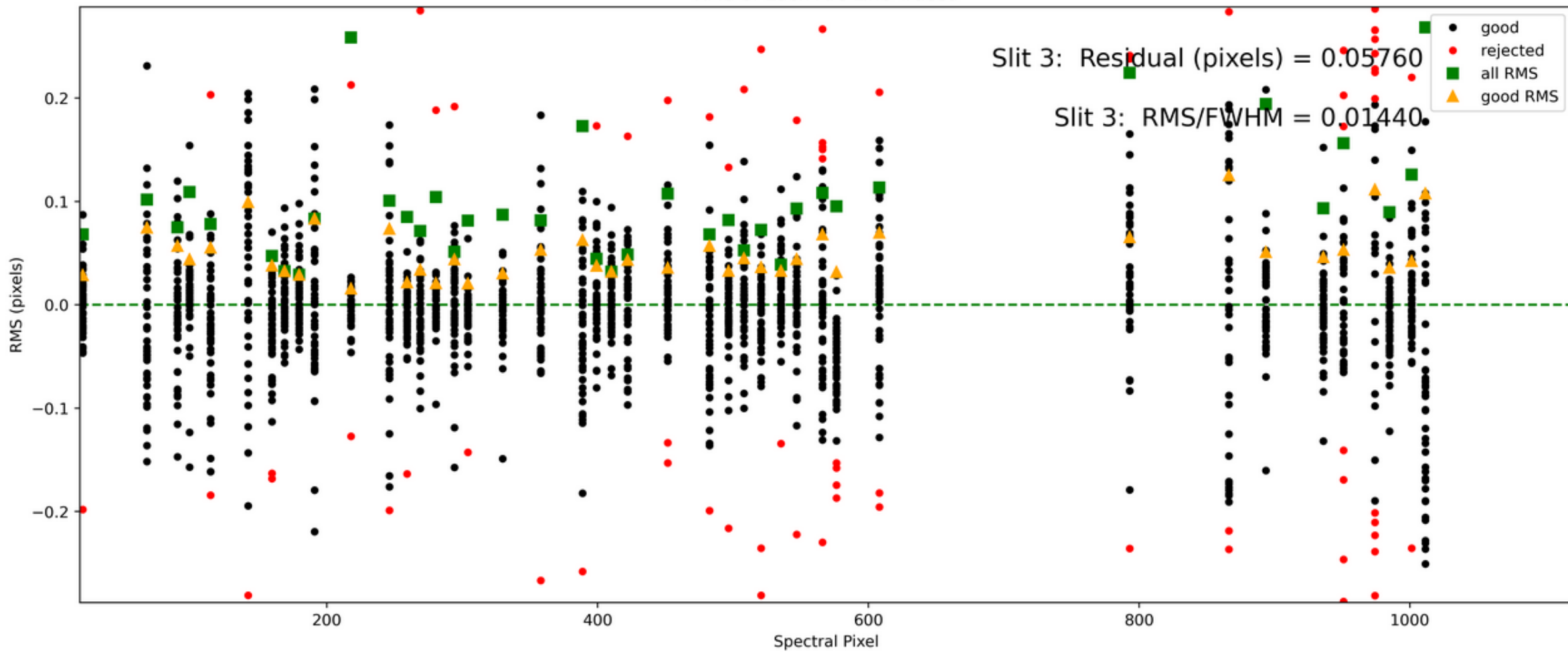


Uncleaned

# Pyeit

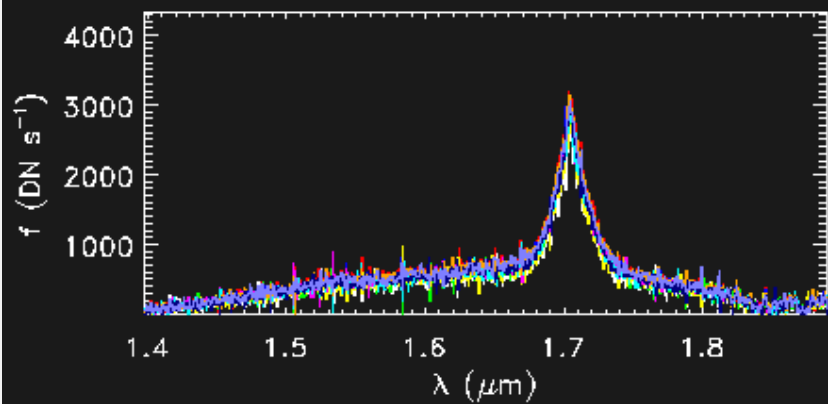


RMS of Each Arc Line Traced

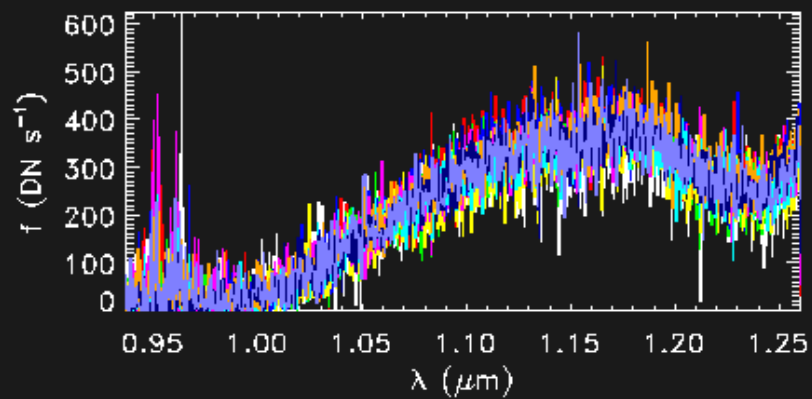


# Xcombspec

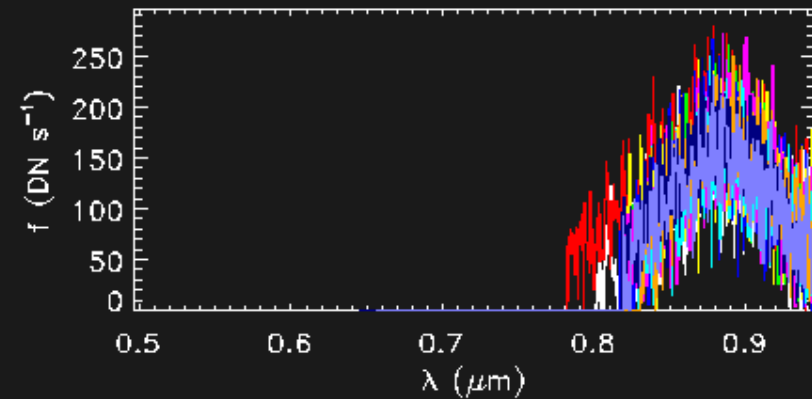
Order 04



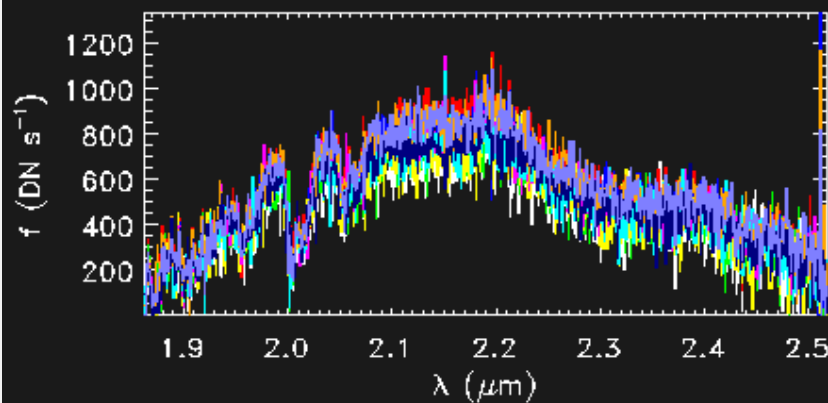
Order 06



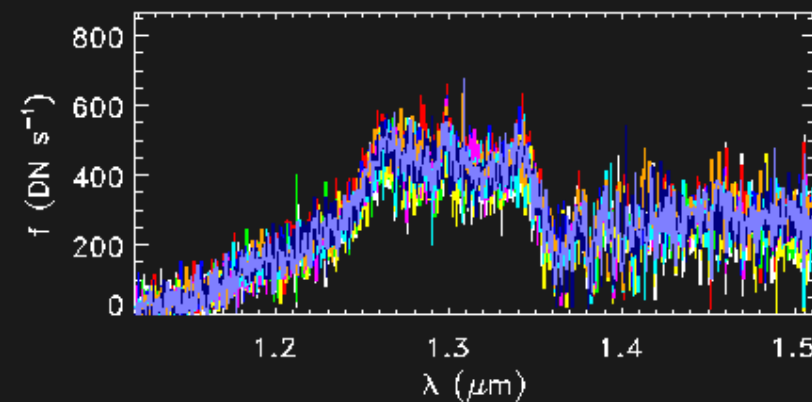
Order 08



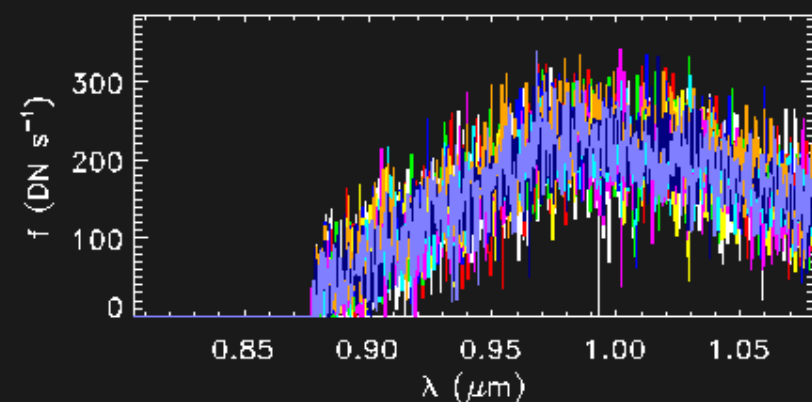
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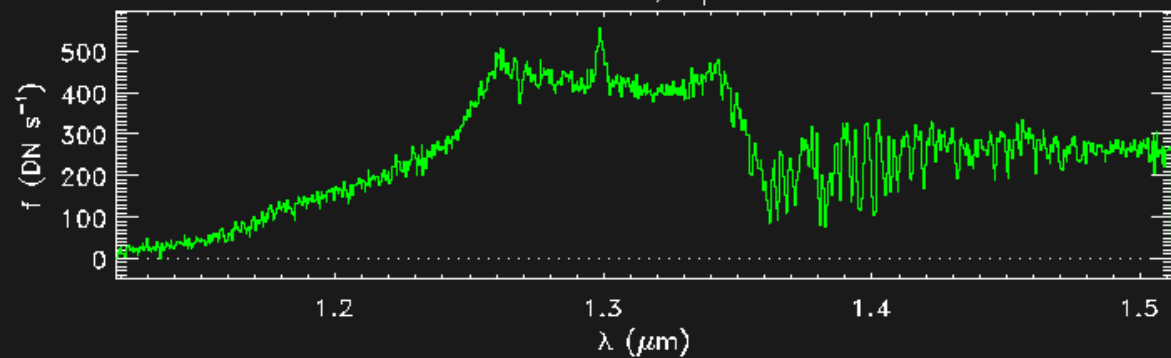
Order 05



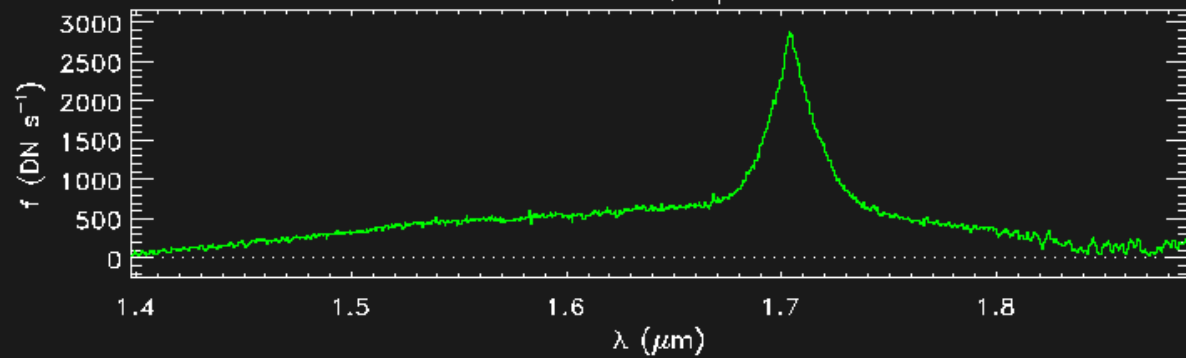
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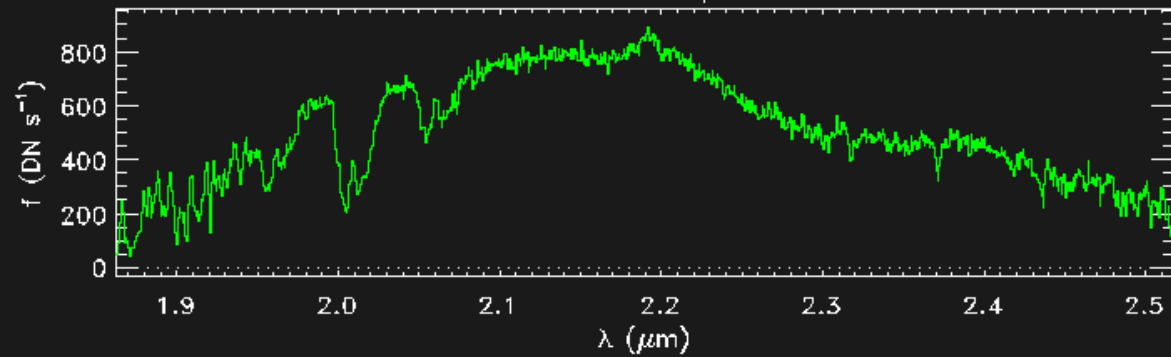
Order 05, Ap 01



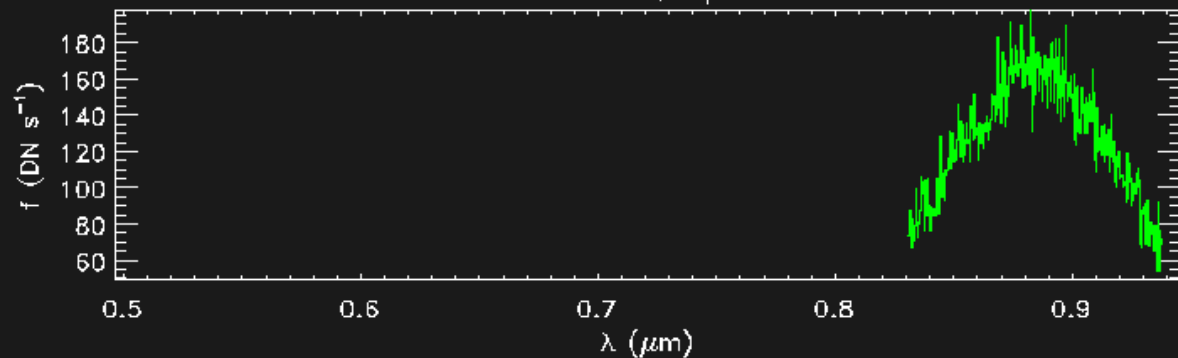
Order 04, Ap 01



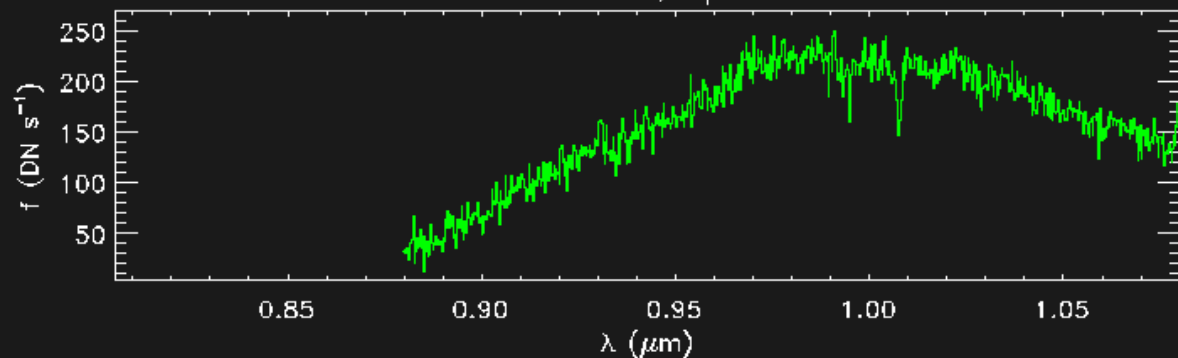
Order 03, Ap 01



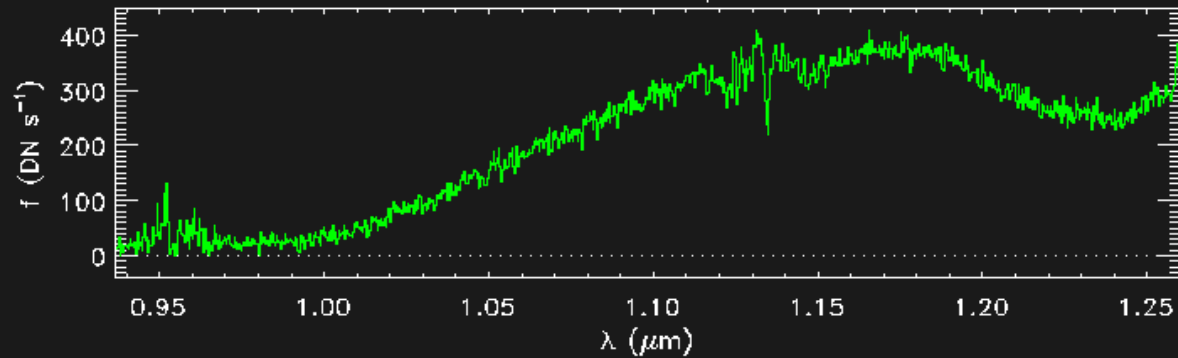
Order 08, Ap 01



Order 07, Ap 01



Order 06, Ap 01





# Continued Data Reduction

- Many more objects need to be reduced
- Emission lines can be compared



Image of a quasar

**Thank you!**

**Questions?**