Posters title: Implications of solar absorption data in the 3.3 and 3.6 μm region for remotely sensing ozone
JB Kumer, R Blatherwick and RB Chatfield

Characteristics of spectra collected & some preliminary modeling by Ron Blatherwick

- The actual absorption data contains a possible model absorption that is linear in the K-band.
- The model is scaled to the observed spectrum.
- The model is used to estimate the residual.
- The residual is used to estimate the water vapor absorption.

Conclusions

- We have investigated how the water vapor absorption is modeled to the limit that the residual is zero.
- The model indicates that the water vapor absorption is modeled very well by fitting species columns that minimize residuals between the model and the data.
- Water vapor in the troposphere can be modeled to the limit that the residuals are zero.
- An effect is the column multiplier that fits the transmission in the water window.
- The water vapor in the troposphere can be modeled very well by fitting species columns that minimize residuals between the model and the data.

We conclude that the problem of transmission through the water vapor is manageable.

However there remain many problems that still require attention including but not limited to:

1. Simultaneous retrieval of albedo and surface emission
2. Spectral parameters
3. Calibration

find the component \( f_{1w} \) of \( f_1 \) that is perpendicular to \( f_2 \)

\[
set \quad f_1 = a f_2 + f_{1w} \quad \text{then calculate}
\]
\[
f_2 \cdot f_1 = a f_2 \cdot f_2; \quad a = f_2 \cdot f_2 / f_2 \cdot f_2
\]
\[
\Rightarrow f_{1w} = f_1 - (f_2 \cdot f_1 / f_2 \cdot f_2) f_2
\]