2002 AVIRIS Workshop

Carbon Dioxide Variation as Measured in AVIRIS Spectra in California from 1992 to 2001 and from Argentina to North America in 2001

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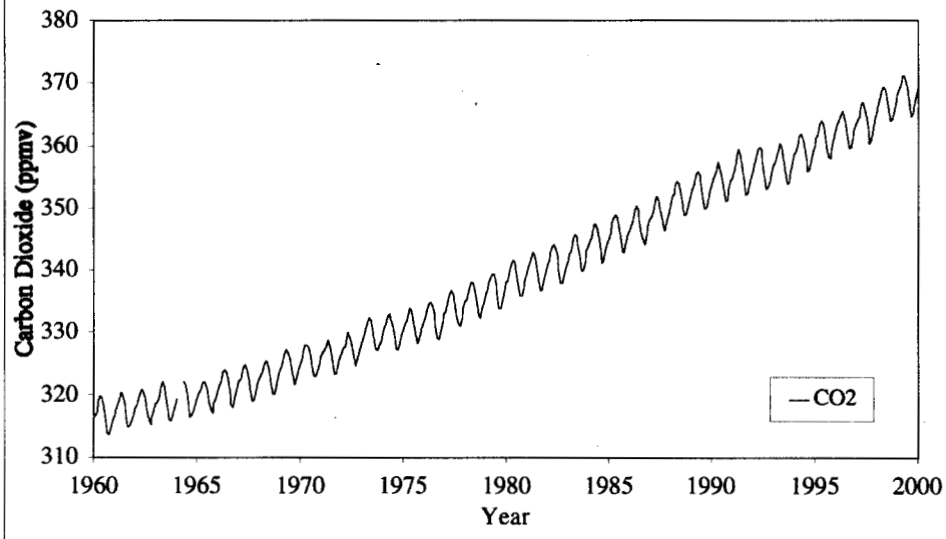
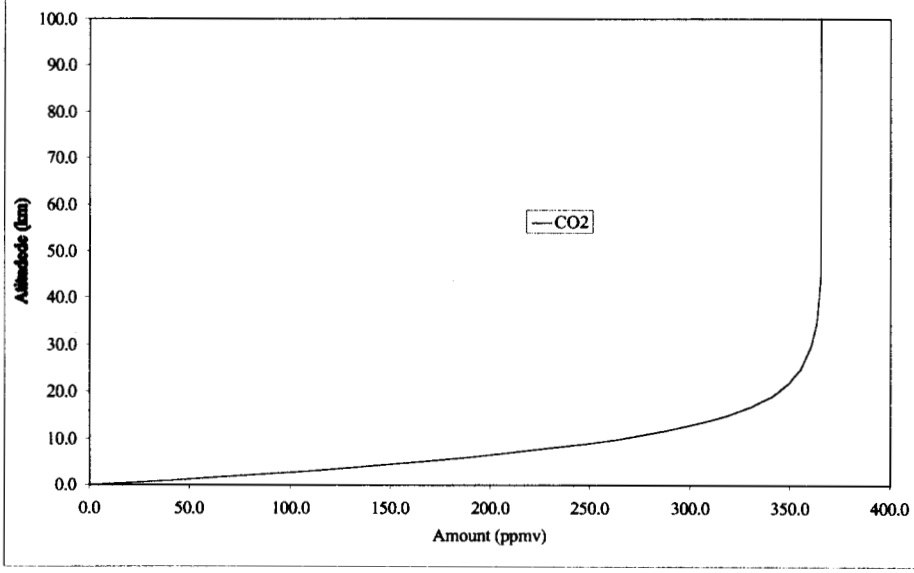
Overview

- Objective and
- Basis and Approach
- Measurements
- Analysis and Results
- Summary

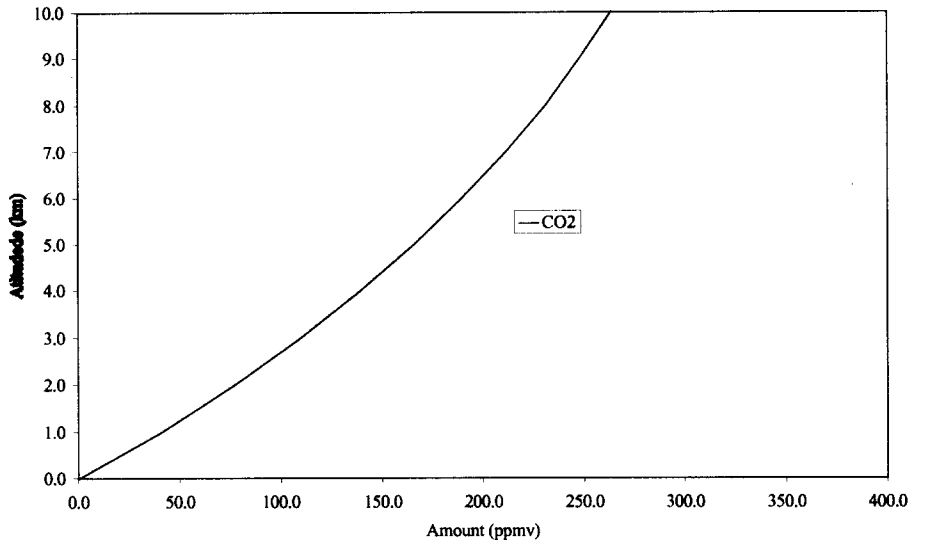
Carbon Dioxide in the Earth's Atmosphere



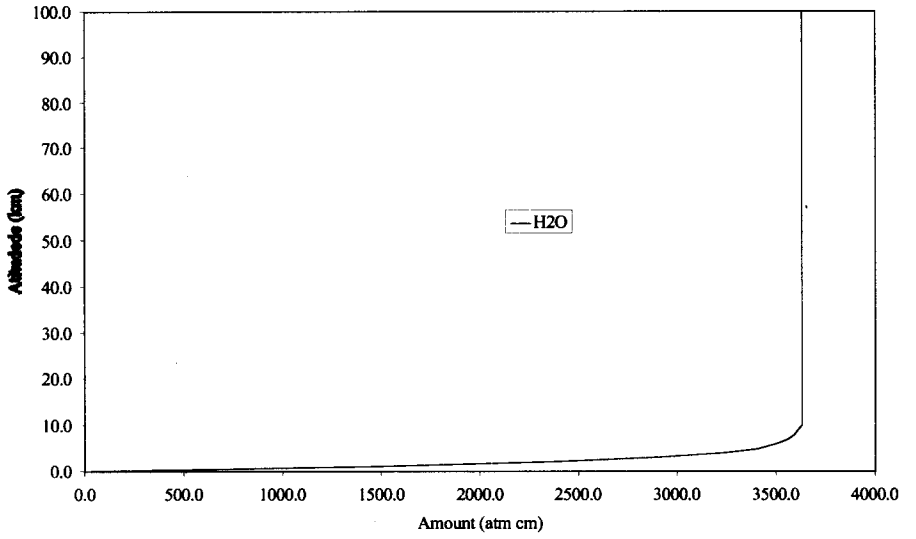
Carbon Dioxide in the Atmosphere



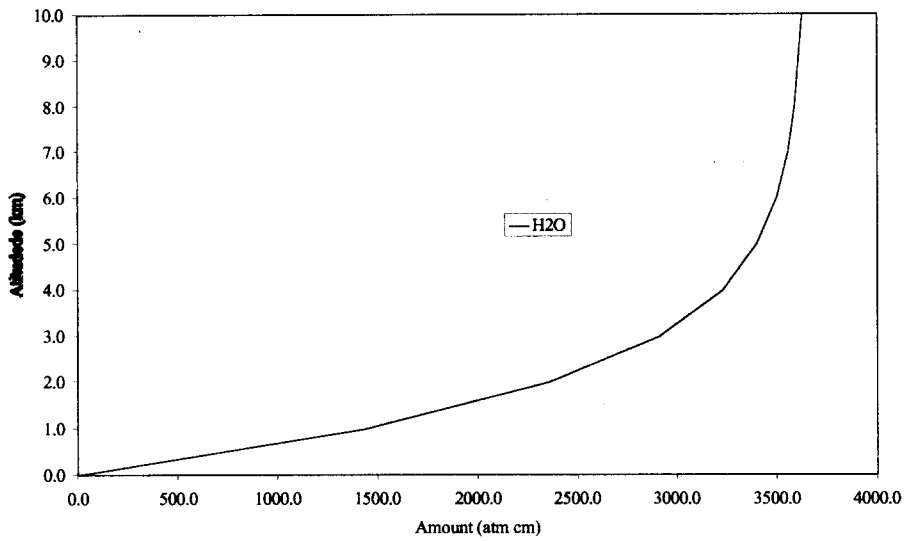
Carbon Dioxide in the Atmosphere



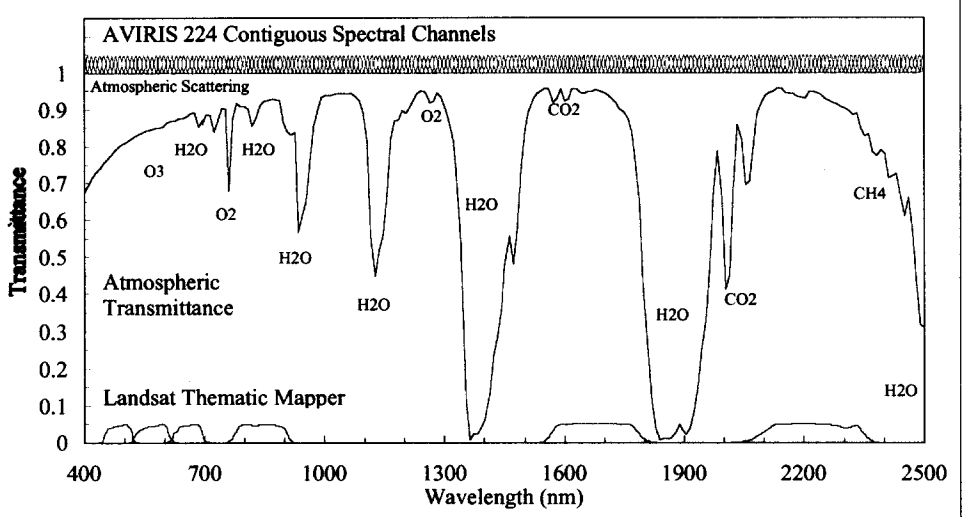
Water Vapor in the Atmosphere



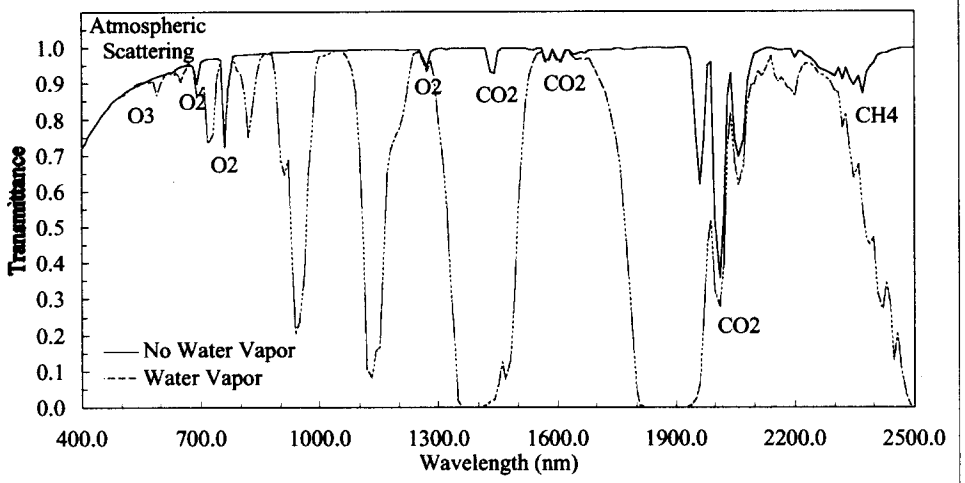
Water Vapor in the Atmosphere



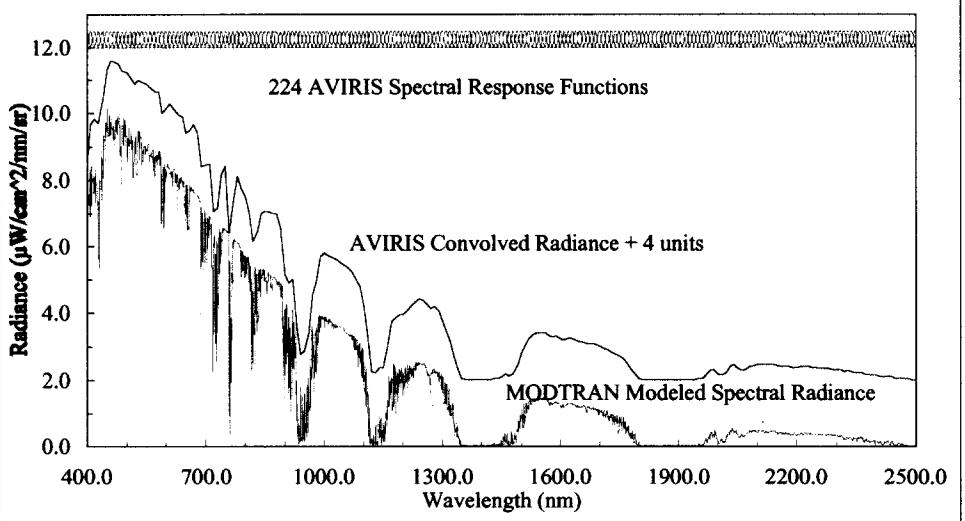
AVIRIS Spectral Range



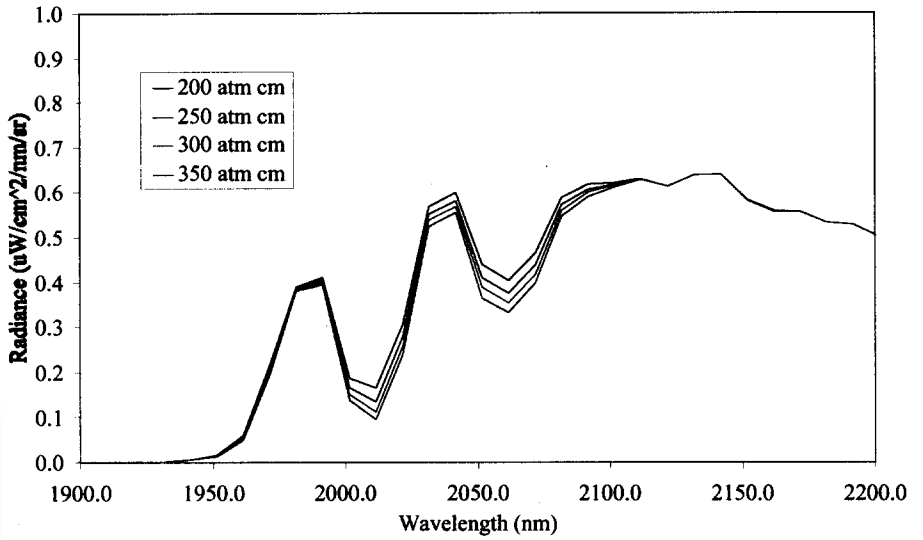
CO2 and Water Vapor



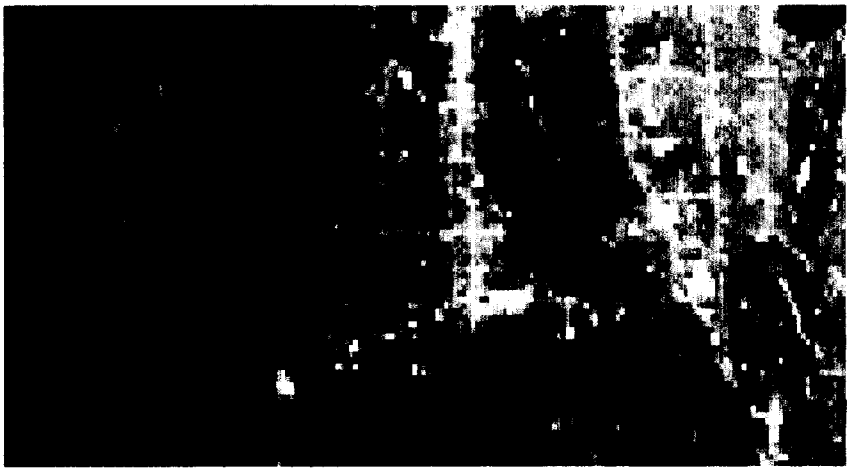
AVIRIS Measures Radiance



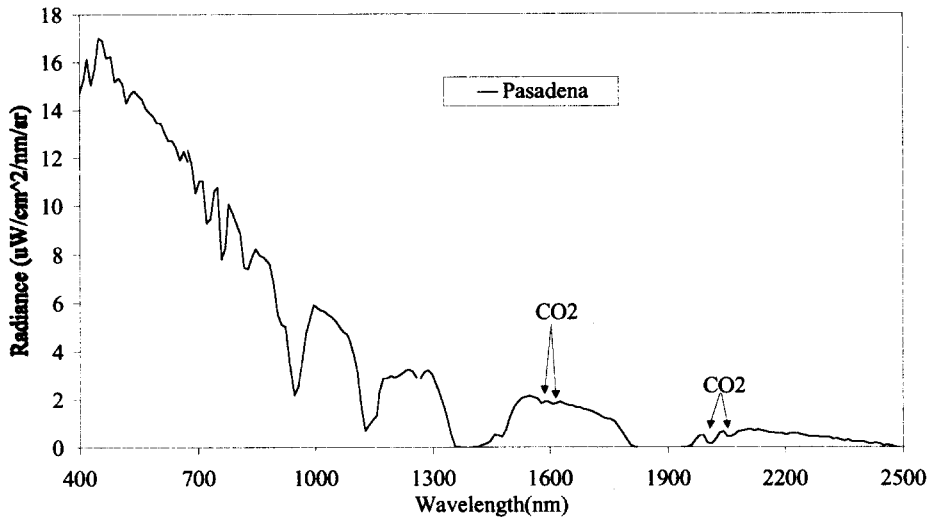
Carbon Dioxide and Measured Radiance



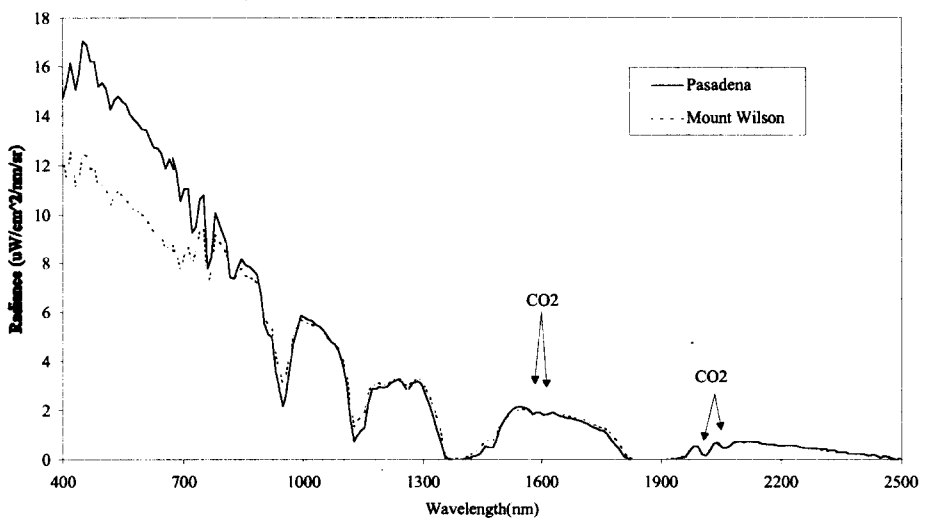
AVIRIS Image Pasadena 1999



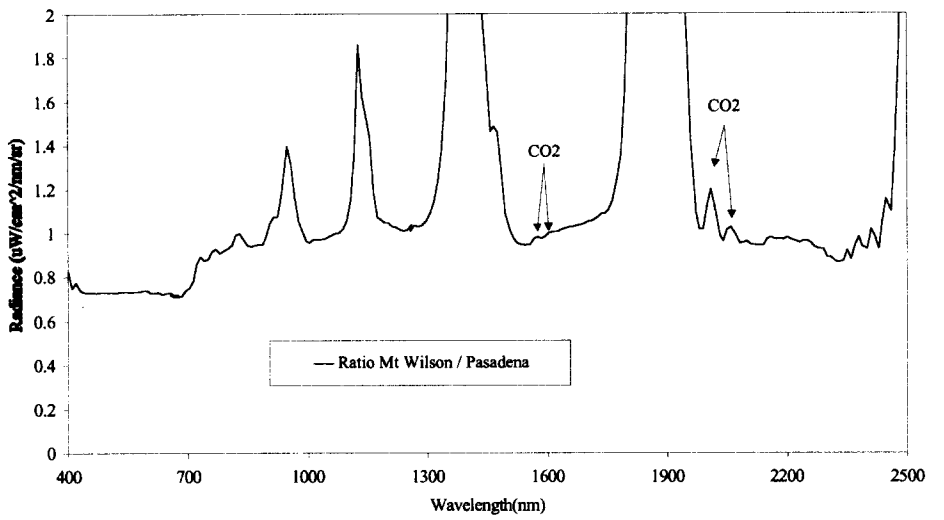
CO2 in AVIRIS Radiance Spectra



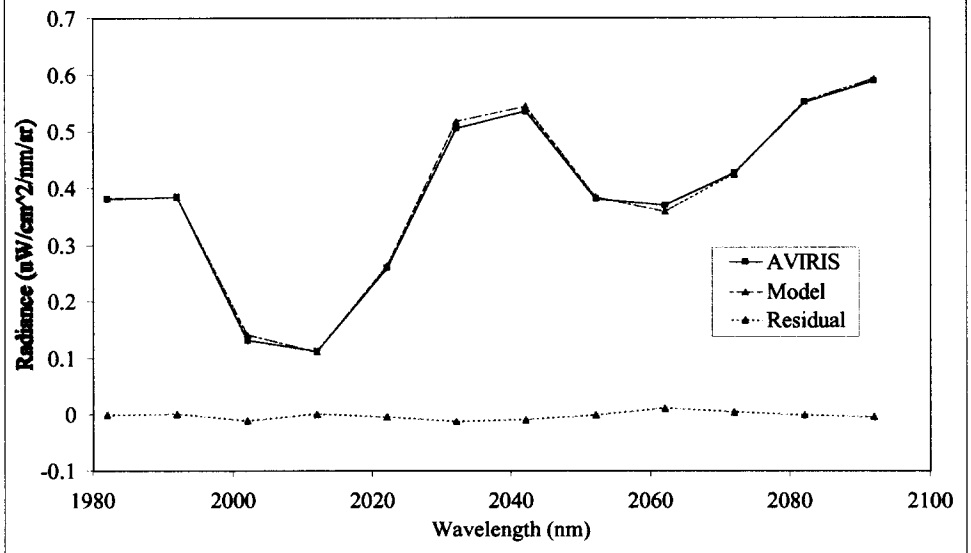
CO2 in AVIRIS Radiance Spectra



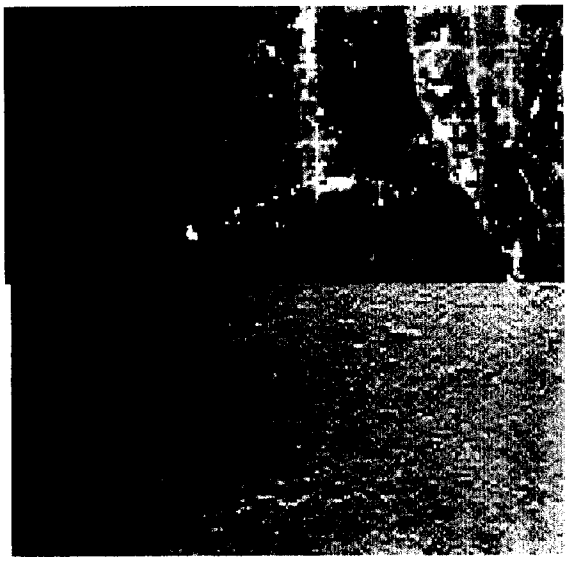
AVIRIS is Sensitive to CO2



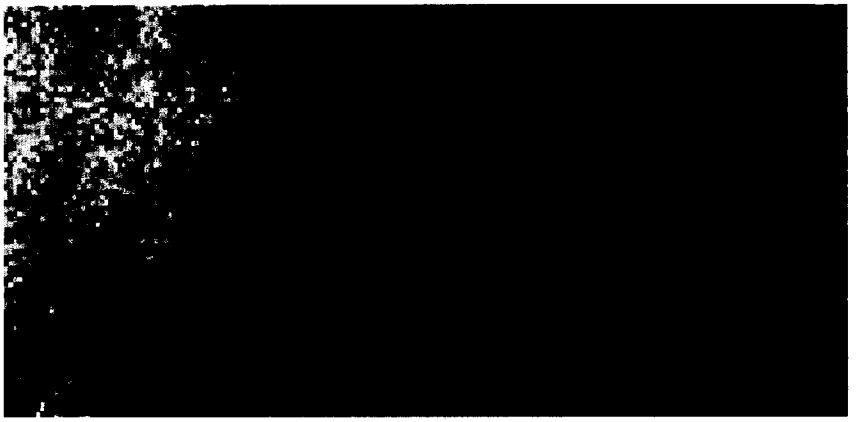
Spectral Fitting for CO2



AVIRIS CO2 Pasadena, CA



AVIRIS Carbon Dioxide



Future Data Sets for Analysis

- Rogers Dry Lake, CA
  - 920530r4
- Rogers Dry Lake, CA
  - 010606r3
- Leocito, Argnetina
  - 010122r9

Summary

- Carbon Dioxide is an important molecule in the Earth's atmosphere
- Carbon Dioxide absorbs energy in the AVIRIS Spectral Range
- AVIRIS is sensitive to the amount of Carbon Dioxide in the atmosphere
- With spectral fitting Carbon Dioxide may be estimated from AVIRIS spectra