

The image features a large, faint, red circular seal of Rutgers University in the background. The seal contains the text 'RUTGERS THE STATE UNIVERSITY OF NEW JERSEY' around its perimeter. In the top left corner, the word 'RUTGERS' is written in a large, white, serif font. Below it, the text 'THE STATE UNIVERSITY OF NEW JERSEY' is written in a smaller, white, sans-serif font.

RUTGERS

THE STATE UNIVERSITY  
OF NEW JERSEY

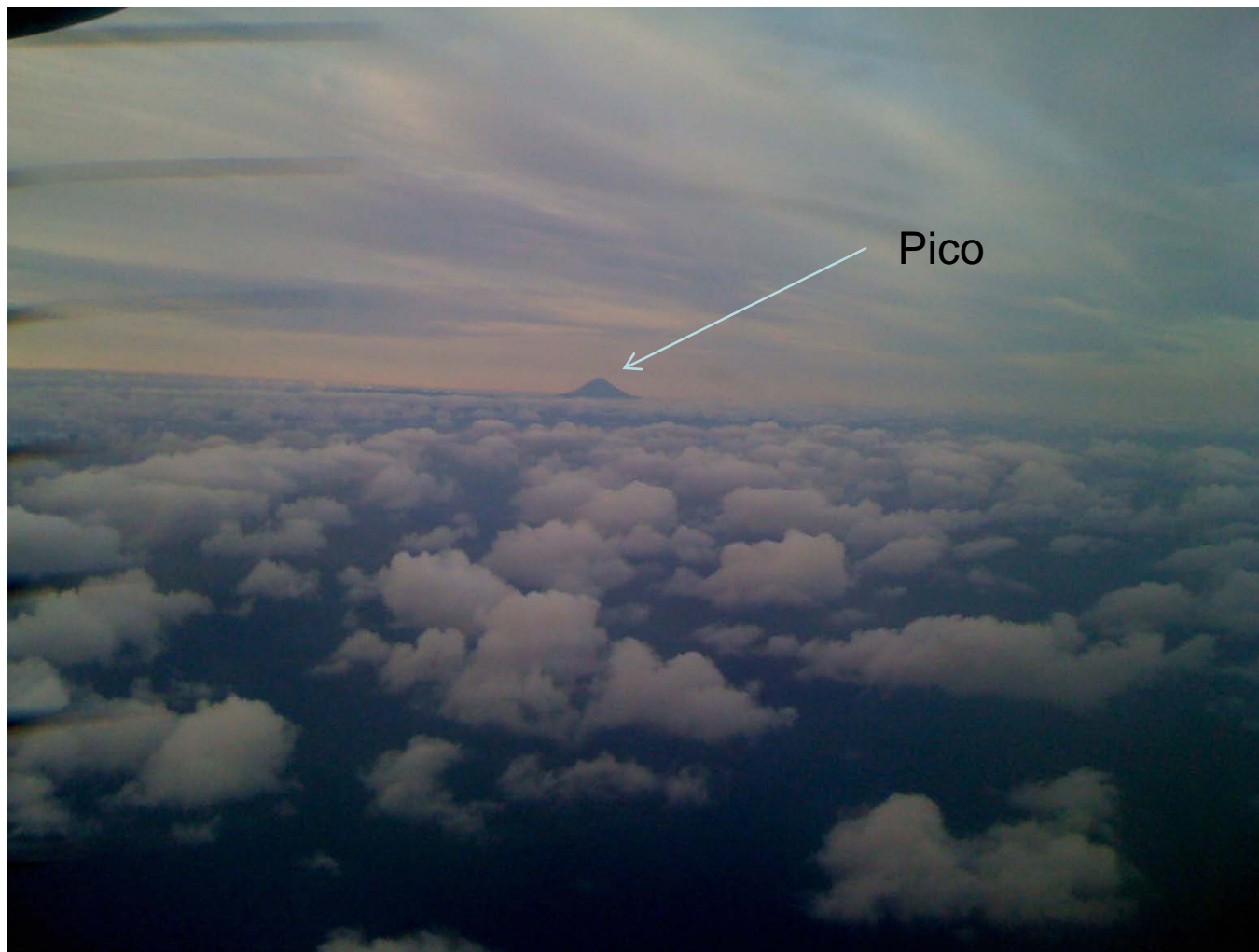
Mark Miller, Robert Zahn, Virendra Ghate  
Rutgers University

Kim Nitschke, Mike Alsop, Claudio Mazzoleni  
Las Alamos National Laboratory

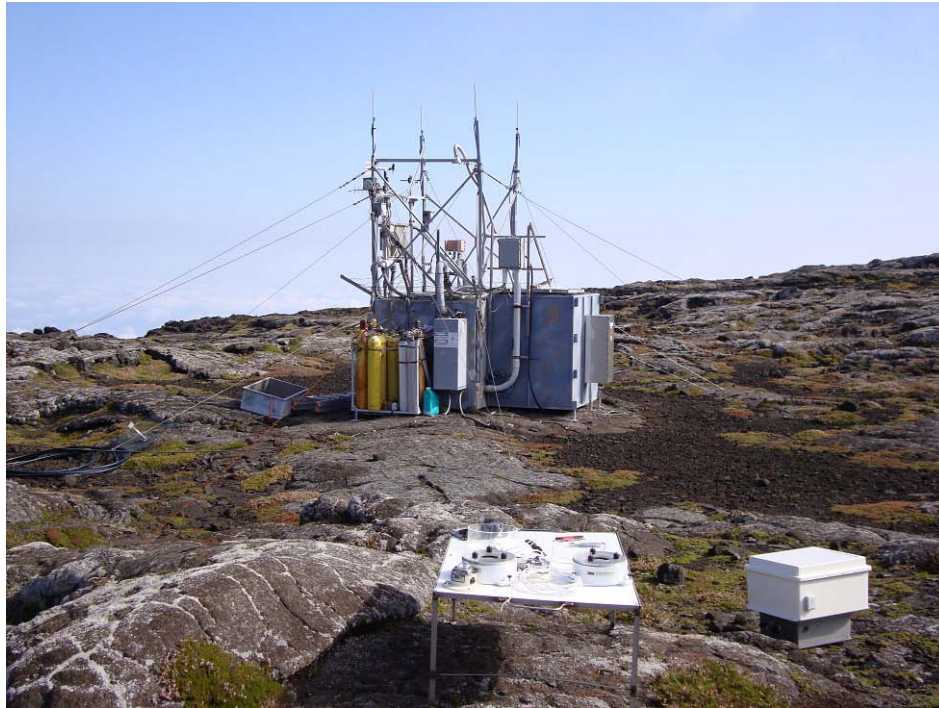
# Experimental Design

- total, direct, and diffuse solar radiation above and below clouds
  - marine stratocumulus
  - marine fair weather cumulus
  - multiple spectral bands
- downwelling infrared radiation above and below
- three months (May through late August)
  
- enables the components of the radiation field to be plotted against cloud structural parameters
- works when there are cirrus above

# Pico from above Graciosa (photo: Mike Alsop)



# Pico Site

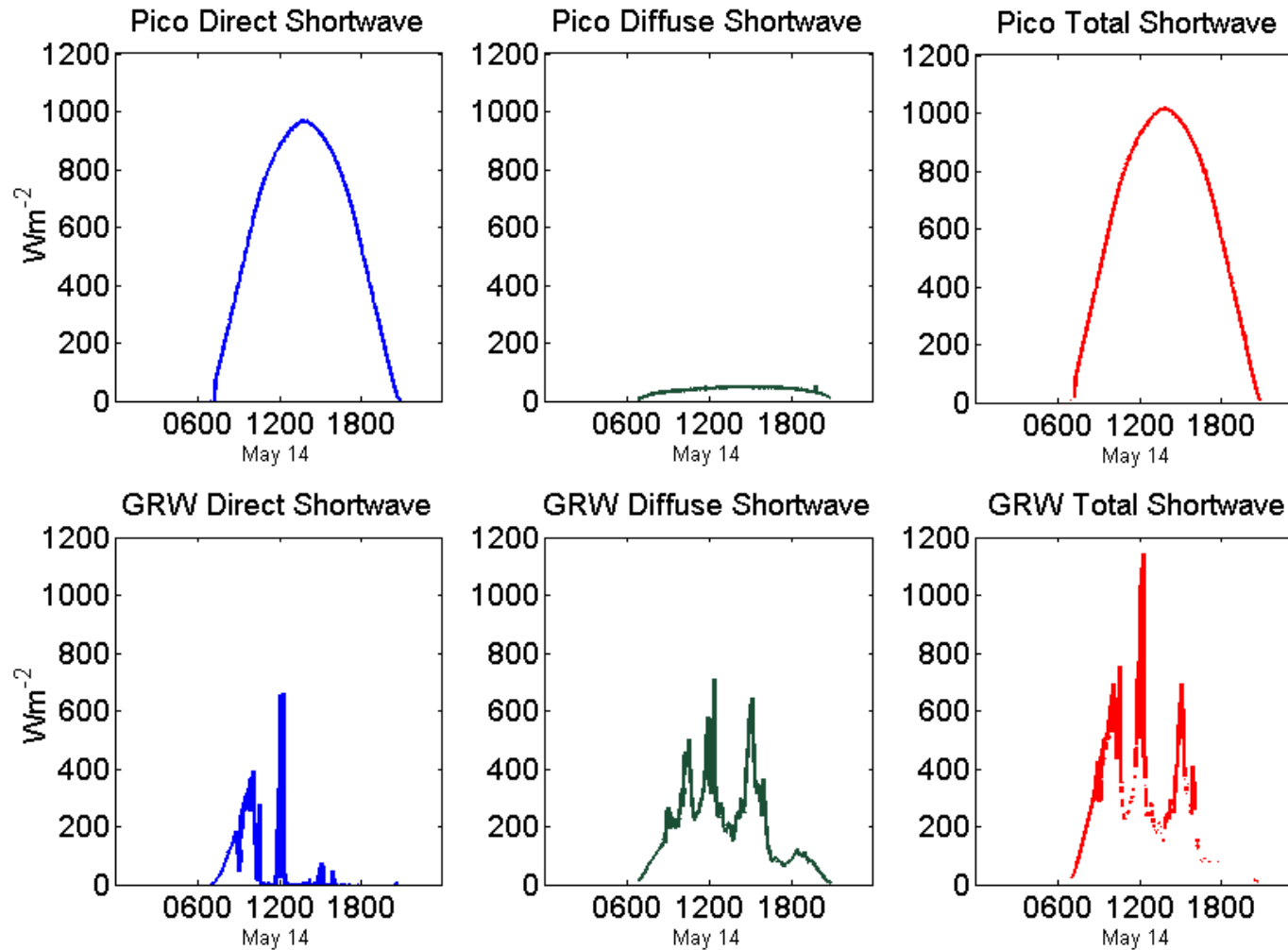


Pico-NARE Observatory  
University of Azores  
University of Colorado  
Michigan Technical University  
DOE ARM

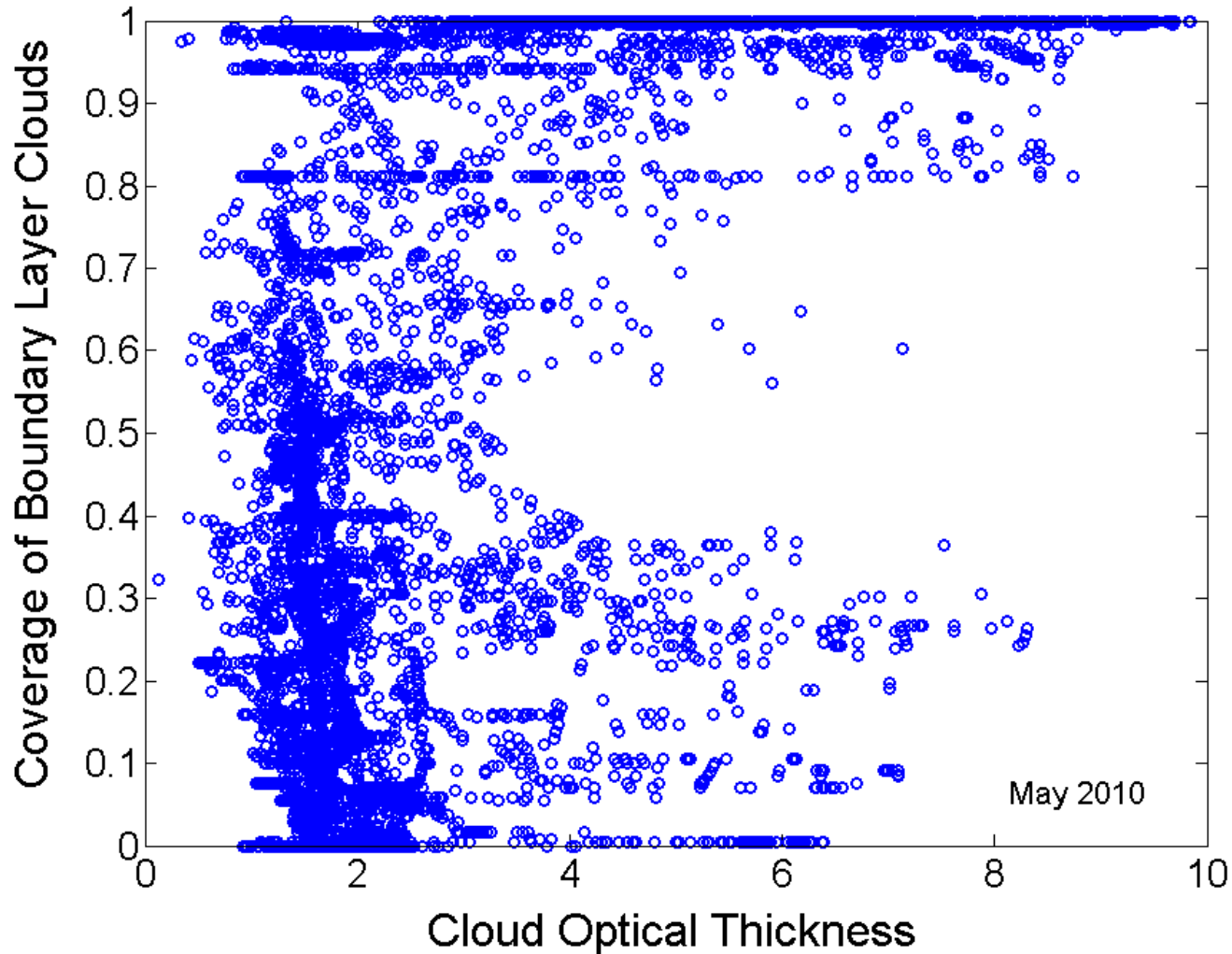
Claudio Mazzoleni  
Michigan Technical University



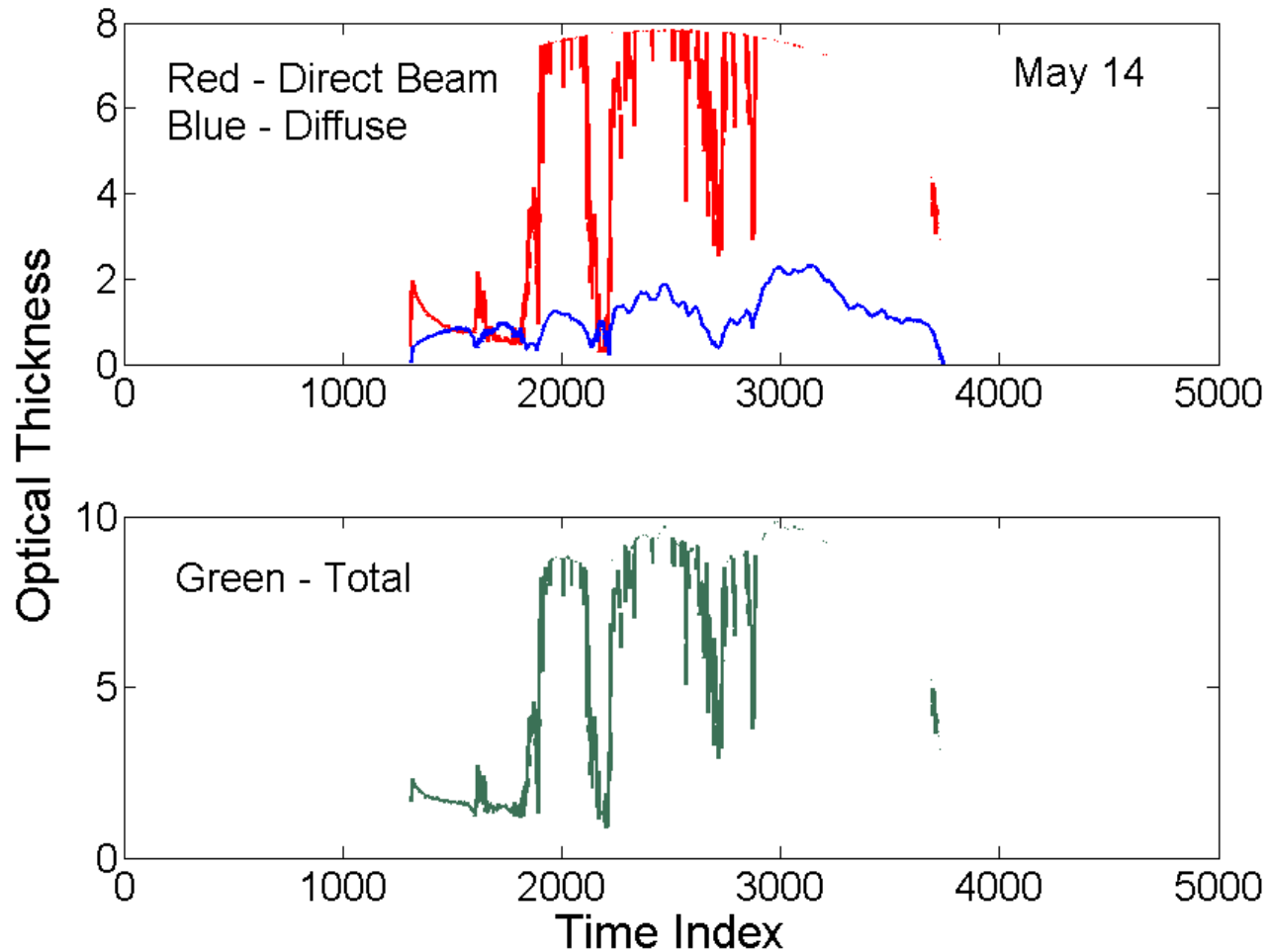
# Clear at Pico—Cloudy at Graciosa



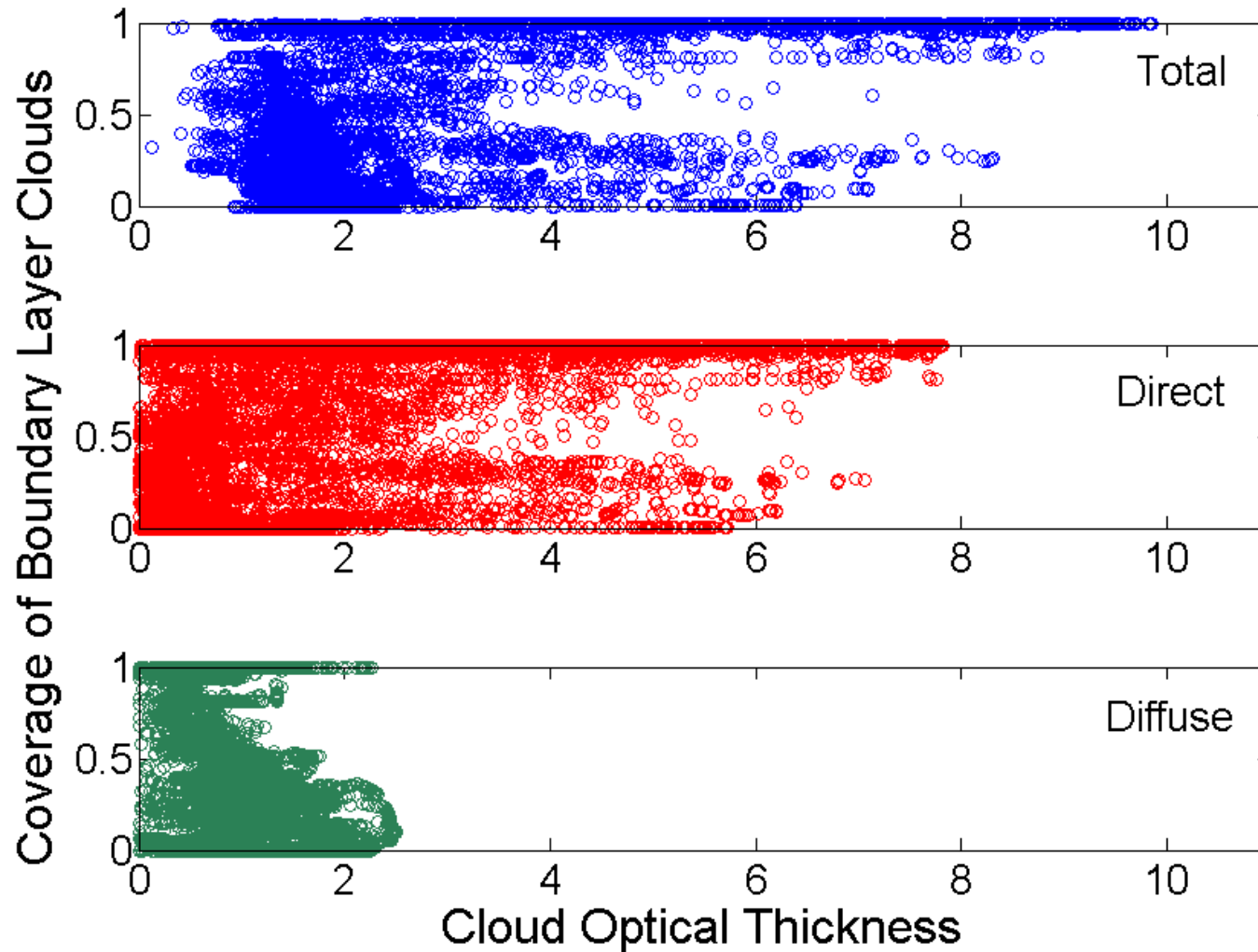
# Cloudiness versus Optical Thickness



# Loss of Sun's Disk at Optical Thickness $\sim 8$



# Decomposition of Optical Thickness





# Thanks!

- Analysis continuing
- Adding cloud geometry from cloud radar and other instruments
- Technique looks viable!