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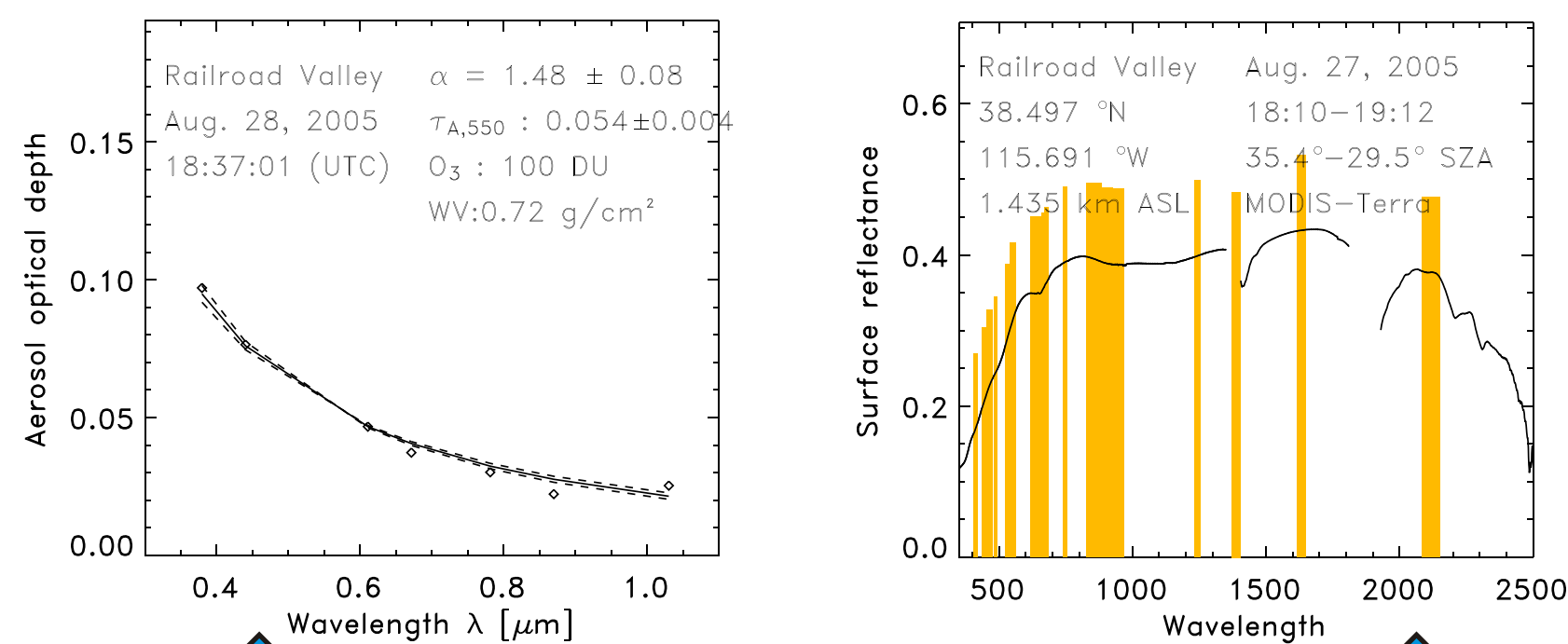
REFLECTANCE-BASED APPROACH



Atmospheric measurements

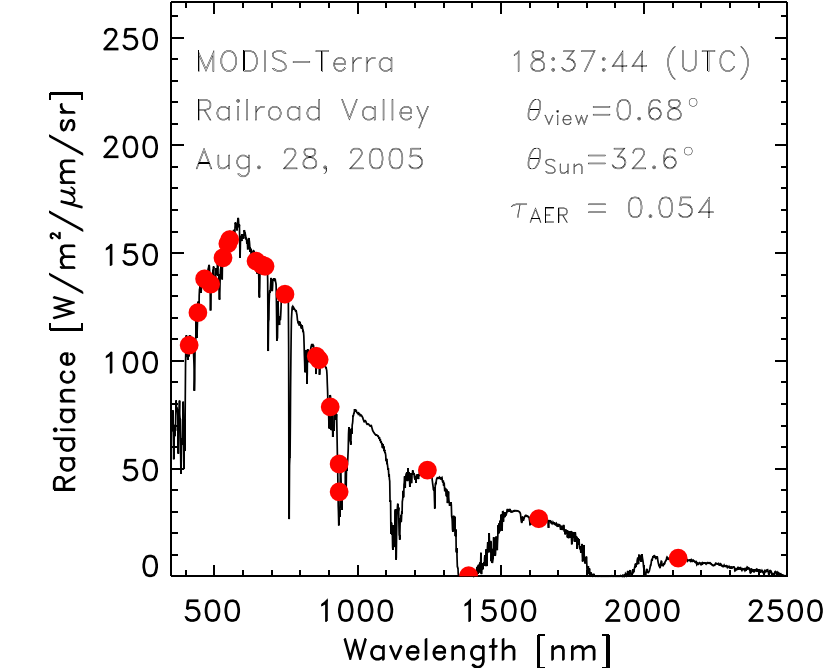
Surface reflectance measurements

- During sensor overpass, RSG personnel measure atmospheric and surface reflectance parameters
- Results from each are used as input to a radiative transfer code
- Output is band-averaged radiance, which is compared to the sensor under test



Radiative transfer code

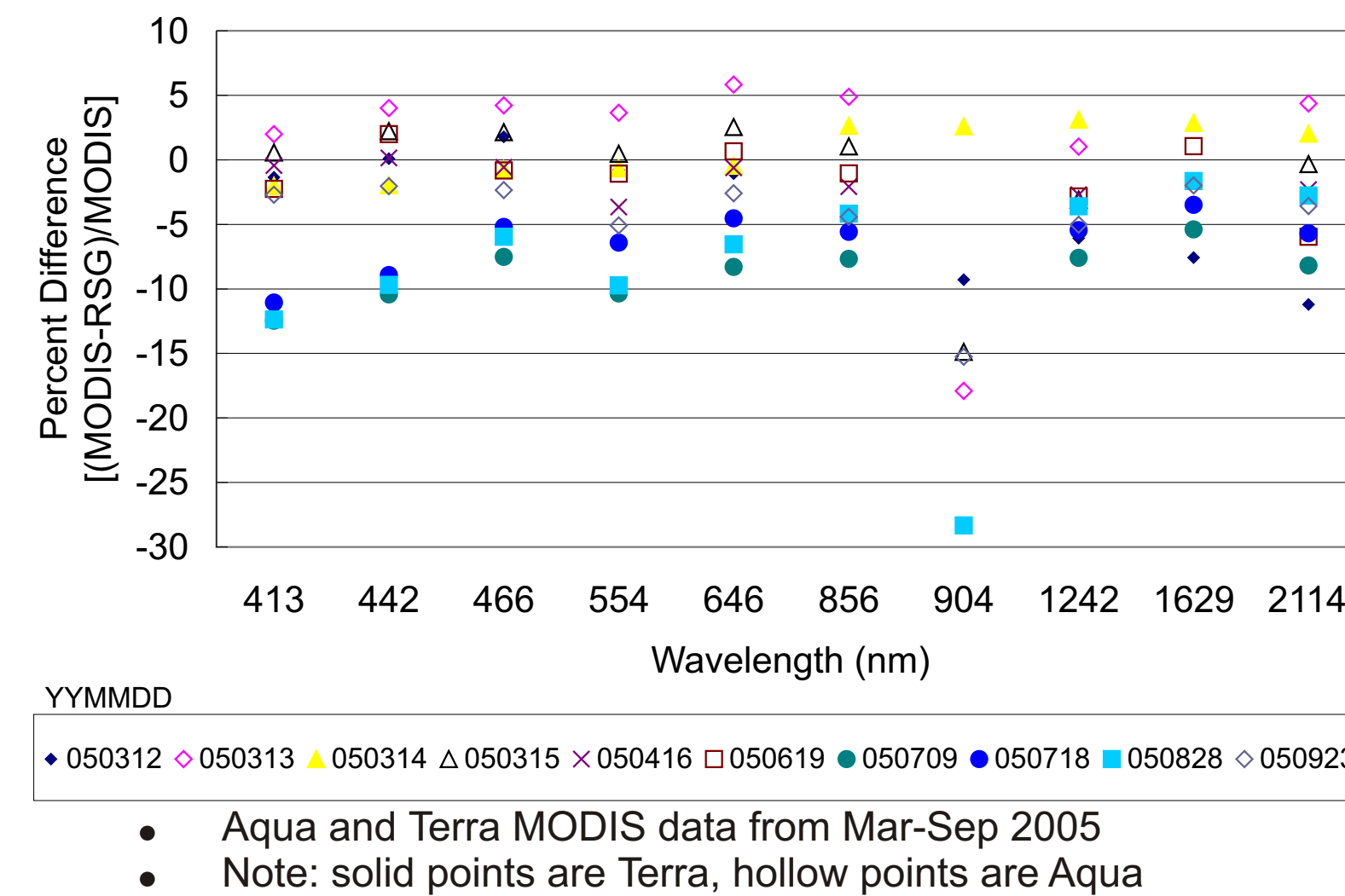
Band-averaged top-of-atmosphere radiance



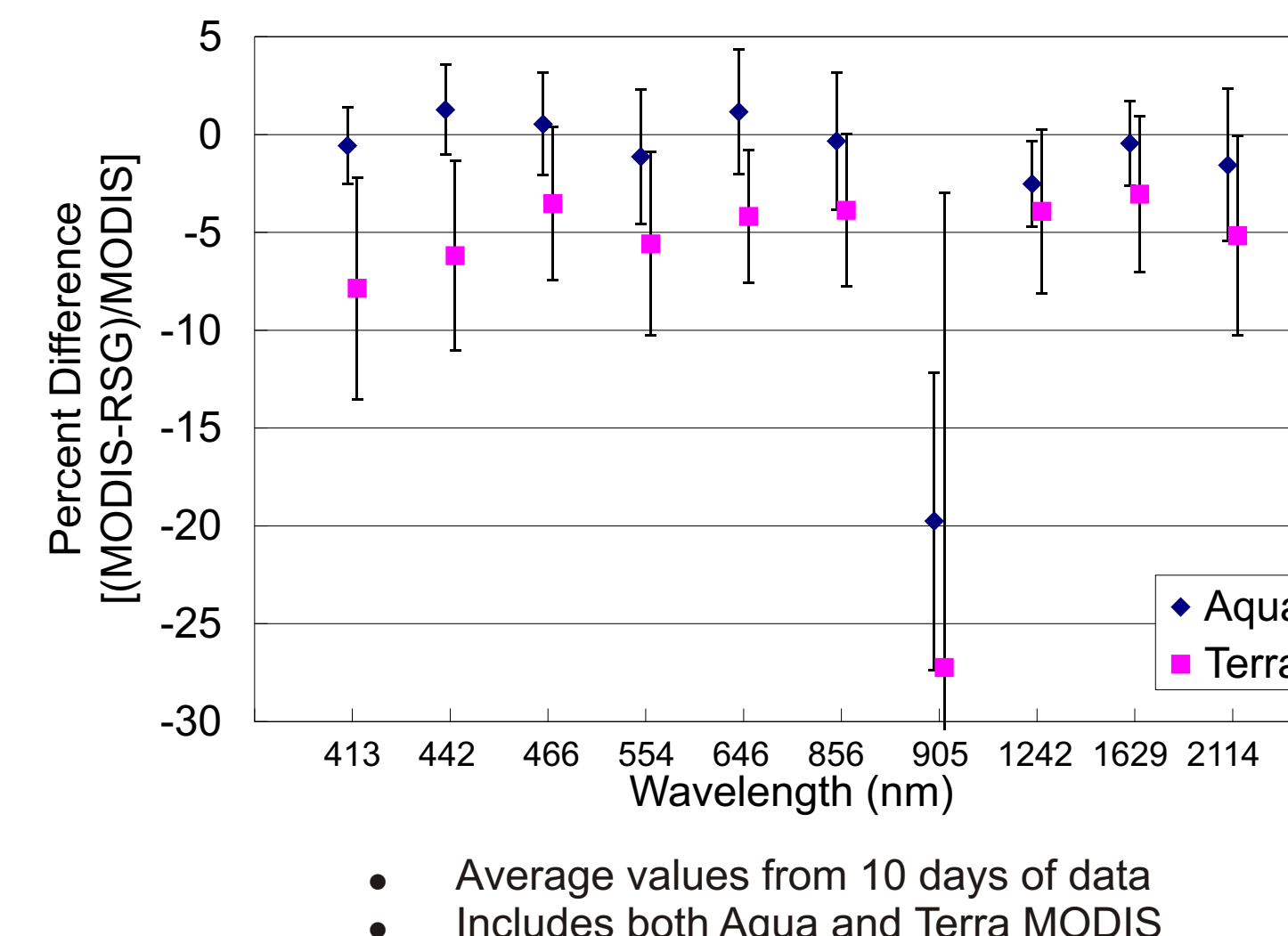
CURRENT WORK

- The reflectance-based approach is continuing to be used successfully at Railroad Valley Playa, Nevada
- Ten new data sets have been processed for MODIS (5 Aqua and 5 Terra) during the time frame of March-September 2005
- We have begun to include AVHRR data to compare MODIS and AVHRR vegetation products
- Calibrating MISR is a logical step since MISR and MODIS view the same site simultaneously

Aqua and Terra MODIS Data: Mar-Sep 2005

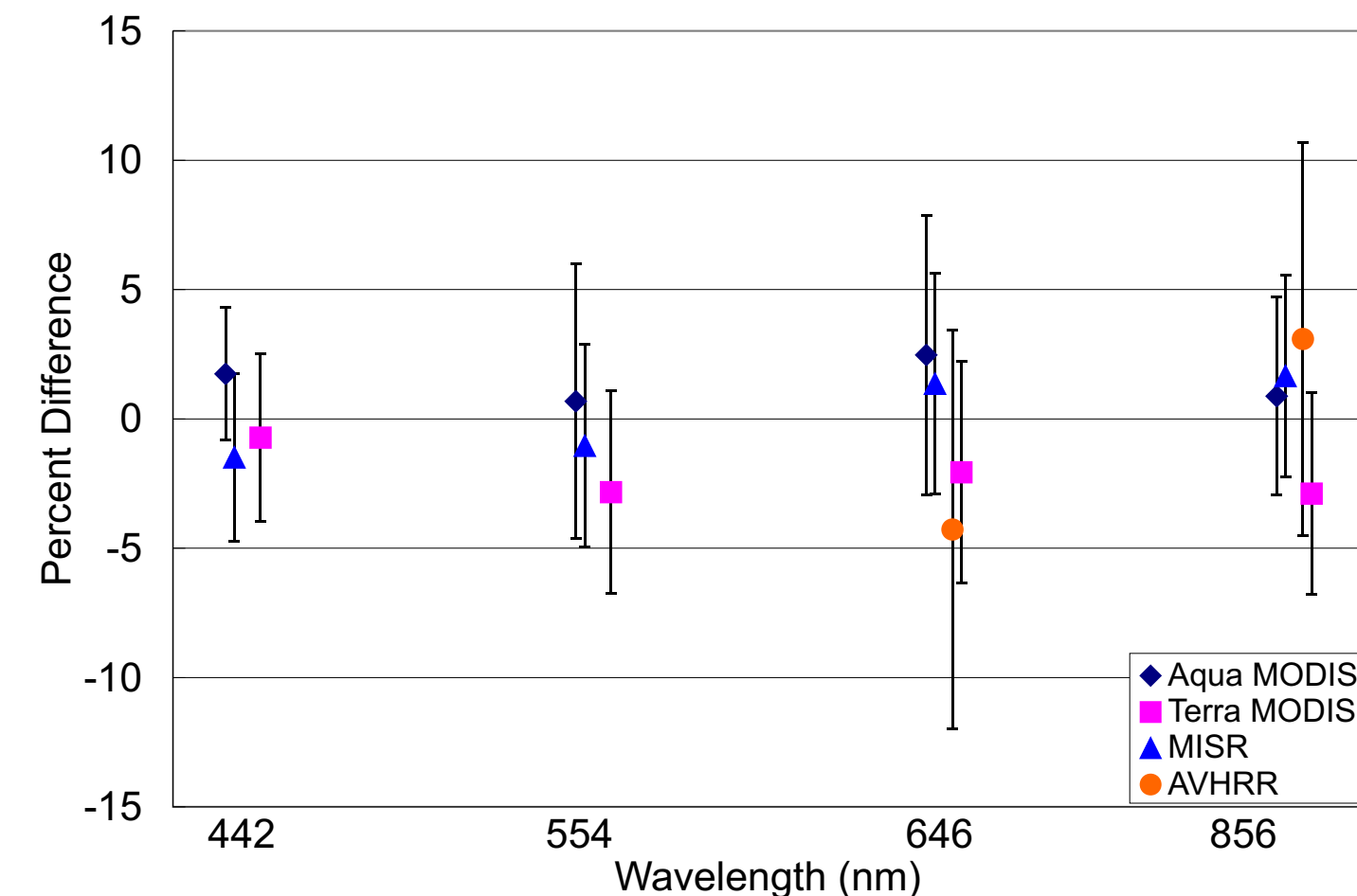


Average: Aqua and Terra MODIS (Mar-Sep 2005)

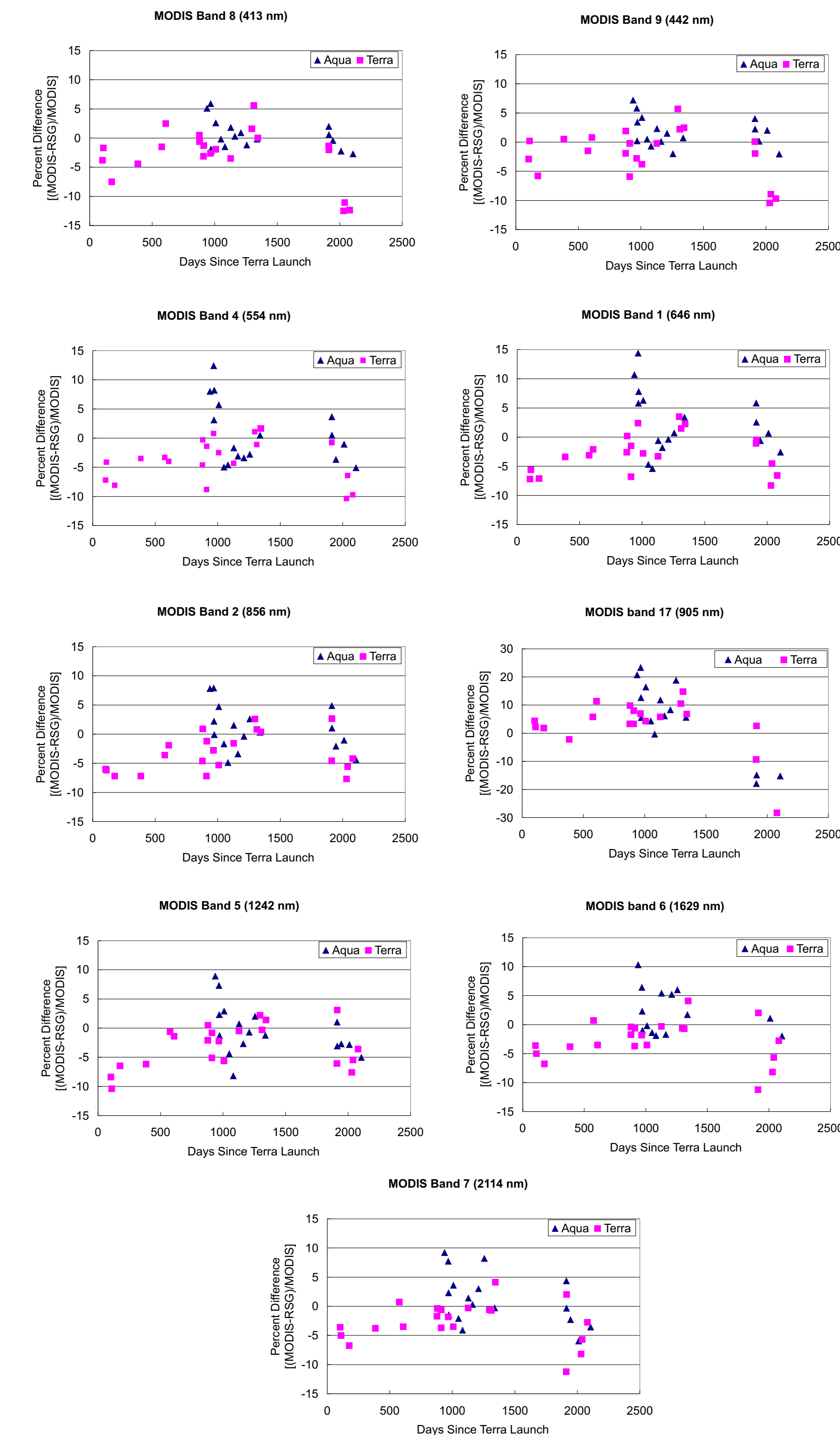


COMPARISON WITH OTHER SENSORS

- MODIS and MISR provide an excellent opportunity for cross calibration since observation and atmospheric conditions are the same
- MODIS, MISR, and AVHRR ground data are all collected using the same site at Railroad Valley
- Agreement is within uncertainties of the method
 - Better between MISR and Aqua MODIS in general
 - Good agreement with AVHRR (only 5 dates)



MODIS RESULTS BY SPECTRAL BAND



CONCLUSIONS

- Results for near-nadir view angles are typical of what RSG has observed in previous measurements
- Results from Aqua and Terra MODIS have a higher percent difference from predicted values when view angles are larger
- Average differences are +4% to -3%, which is within the method uncertainty, but statistically significant in some cases