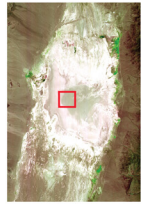
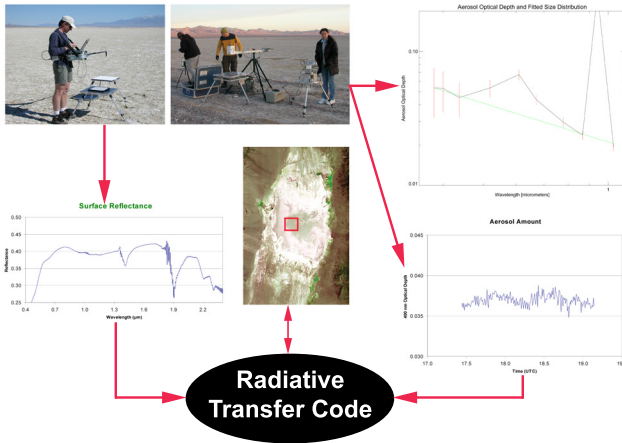
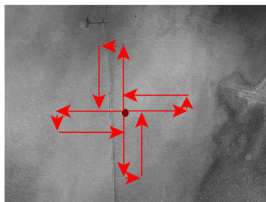


Reflectance-based Approach



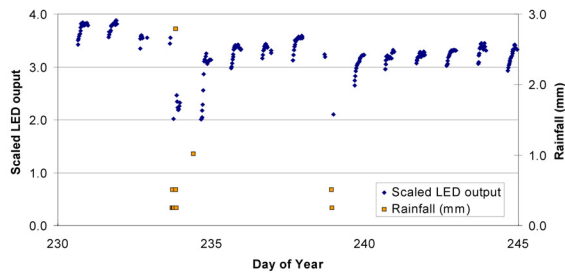
For MODIS we need to characterize a much larger area and the path shown to the right allows the reflectance of a 1-km X 1-km area to be measured in about 1 hour



Investigating the use of LED-based radiometers to monitor surface reflectance to improve temporal sampling of reflectance-based results



LED output and Rainfall versus Time



Vicarious calibration of Aqua and Terra MODIS

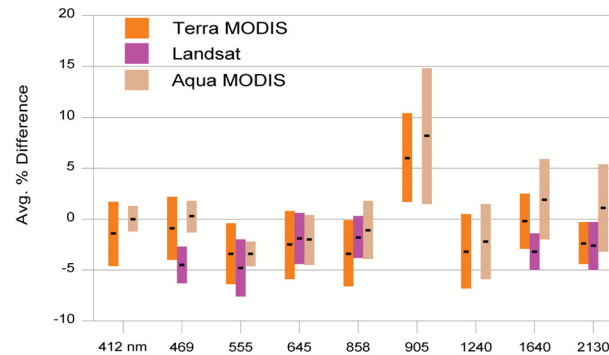
K. Thome
Remote Sensing Group, Optical Sciences Center
University of Arizona

U of A has been using the reflectance-based approach for both Terra and Aqua MODIS relying primarily on the Railroad Valley test site in Nevada.

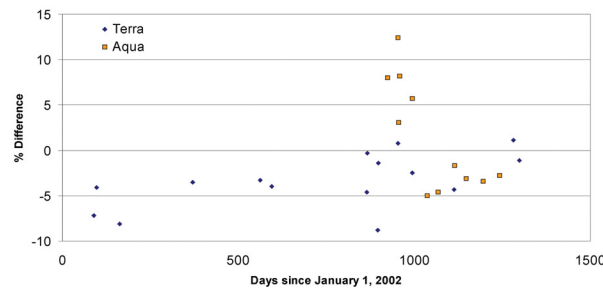
Method has also been used for numerous other sensors allowing an intercomparison between MODIS and these other sensors.

Approach indicates that the precision is on the order of 3% with a similar level of accuracy.

MODIS versus ETM+



Terra and Aqua results versus time

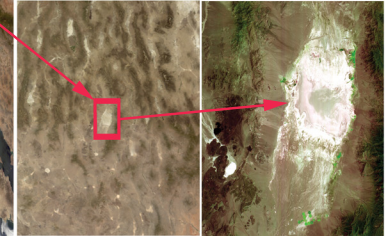


Railroad Valley Test Site

North-central Nevada at elevation of 1.5 km



Distinct boundaries help in locating plays in low-resolution imagery
15 km in size
Low aerosol loading
Typically clear and dry



Conclusions

There exist real biases between the sensors that are part of ESE and the AM constellation

In some cases these biases are small and within the uncertainties of the absolute radiometric accuracy

If these small biases are verified through other methods then a correction should be considered

In the case of large biases a decision must be made regarding the "right" answer

Vicarious methods in general are more repeatable now and offer an excellent method for ensuring the consistency of sensors over time and across platforms

MODIS versus other current sensors

