VALIDATION OF THE MODIS L1B PRODUCT

- The validation of the L1B products is to be accomplished using a diverse collection of tools and approaches:
  - aircraft sensors,
  - ground-based sensors
  - mooring platforms.
  - ship-based sensors,
  - radiative transfer modeling to simulate TOA data,
  - cross-comparison with other AM-1 observations,

VALIDATION OF THE MODIS L1B PRODUCT

- MODIS derived TOA spectral radiances will be validated in the 16 VIS/NIR and 4 SWIR bands.
  - High radiance sites (i.e., White Sands)
  - Low radiance sites (i.e., Tahoe)
- TIR bands 31 and 32 will be validated directly.
  - Other TIR bands will be validated by referring to 31 and 32 via the on-board blackbody.
- Accuracy, precision, resolution, and sensitivity to change will be addressed by instrument modeling, self consistency and trending, and vicarious calibrations.

VALIDATION OF THE MODIS L1B PRODUCT

- Long-term stability monitored by Lunar looks through the space view port 3 to 7 times a year
  - Small roll manuevers requested to permit a monthly view of the moon.
- Radiometric calibration change over days to weeks checked with the solar diffuser measurements.
  - Adjustments to the reflected solar band calibrations will not be incorporated before they are reviewed with the Science Team
  - Implications of the changes on the Level 2 algorithms must be understood.

VALIDATION OF THE MODIS L1B PRODUCT

- University of Arizona will conduct VC campaigns for ASTER and MODIS
  - TOA radiances from Surface & Airborne Systems
  - Approx one campaign per 32 days for nadir looking conditions during initial six-months.
- Input from Level 2 Products is TBD
- Vicarious calibration of thermal bands will be used to change temperature offsets of the average BB and cavity temperatures.

VALIDATION OF THE MODIS L1B PRODUCT

- Validation of $\rho(ev)$ in Equation (11) will be assessed in part by comparison of $E(MODIS, B, D)$ from Eq. 9 with published curves of the solar spectral irradiance in these wavelength regions.
- Flat-fielding approaches (detector equalization within a band) will be checked with “bow-tie” effects using real scenes.