Presentation Summary: **Comparison of Pyranometers and Reference Cells on Fixed and One-axis Tracking Surfaces**

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Summary: Photodiode-based pyranometers and reference cells are compared to high quality thermopile pyranometers on a fixed and one-axis tracking surface. Spectral and angle of incidence effects were examined. The spectral effects are clearly apparent in photodiode-based pyranometers, especially on a one-axis tracking surface where the pyranometer is pointed more directly at the sun in the morning and evening hours. Reference cells also exhibit spectral effects but also have a large angle of incidence effects.