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Research Scanning Polarimeter (RSP) goals with ALIVE data

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Instrument Description

Research Scanning Polarimeter (RSP):

- Airborne prototype of the Aerosol Polarimetry Sensor (APS), part of NASA Glory
- Nine spectral channels, blue to infra-red (410 - 2250 nm)
- Scans along track (in the direction of motion), 152 measurements in $\pm 50^\circ$
- Polarized radiance - I,Q,U components of Stokes vector
- High (0.2%) accuracy for polarized radiances



RSP during ALIVE

- placed in the tail of a Jetstream-31
- AATS-14 sun photometer also in J-31
- Data in solar principal plane and cross-principal plane above aerosols
- surface reflectance characterization with low altitude flights (200m above ground)

Four potential publications

- **Characterize surface polarized reflectance**
 - Examine angular and spectral variability
 - Polarized reflectance important for RSP aerosol retrieval
- **Compare measured BRDF to MODIS BRDF kernel estimates**
 - Assess MODIS global albedo products
 - See poster Wednesday
- **Optimal estimates of aerosols**
 - Composition, size and number using passive measurements.
- **Determine vertical aerosol property distribution**
 - In combination with data from MILAGRO (Veracruz, Mexico, March 2006)
 - Use both active and passive measurements

RSP Video

