

## **The AVIRIS Low Altitude Option - An Approach to Increase Geometric Resolution and Improve Operational Flexibility Simultaneously**

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From 1987 through 1997 the Airborne Visible-InfraRed Imaging Spectrometer has matured into a remote sensing instrument capable of producing prodigious amounts of high quality data. Using the NASA/Ames ER-2 high altitude aircraft platform, flight operations have become very reliable as well. Being exclusively dependent on the ER-2, however, has limitations: the ER-2 has a narrow cruise envelope which fixes the AVIRIS ground pixel at 20 meters; it requires a significant support infrastructure; and it has a very limited number of bases it can operate from. In the coming years, the ER-2 will also become less available for AVIRIS flights as NASA Earth Observing System satellite underflights increase.

Adapting AVIRIS to lower altitude, less specialized aircraft will create a much broader envelope for data acquisition, i.e., higher ground geometric resolution while maintaining nearly the ideal spatial sampling. This approach will also greatly enhance flexibility while decreasing the overall cost of flight operations and field support. Successful adaptation is expected to culminate with a one month period of demonstration flights.