The HiiH at toolbox developed for CAT/ENVI provides principal investigators direct, immediate, flexible, and seamless interaction with their instruments and data from any location. Offering segmentation and neutral region division, it facilitates the discovery of key endmembers and regions of interest larger than a single pixel.

Crucial to the analysis of hyperspectral data from Mars or Earth is the removal of unwanted atmospheric signatures. For Mars and the Compact Reconnaissance Imaging Spectrometer for Mars (CRISM), residual atmospheric CO₂ absorption is both directly problematic and indicative of processing errors with implications to the scientific utility of any particular image region. Estimating this residual error becomes key both in selecting regions of low distortion, and also to select mitigating methods, such as neutral region division. This innovation, the ATM O estimator, provides a simple, 0-1 normalized scalar that estimates this distortion (see figure). This mimics the behavior of existing CRISM team mineralogical indices to estimate the presence of known, interesting mineral signatures. This facilitates the ATM O metric’s assimilation into existing planetary geology workflows.

This work was done by Lukas Mandrake and David R. Thompson of Caltech for NASA’s Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1).

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