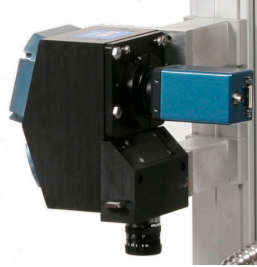
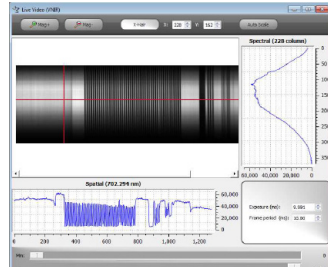


PRECISION SPECTRAL ANALYSIS OF DOCUMENTS AND ARTIFACTS

Headwall specializes in hyperspectral imagers that precisely analyze color and chemical composition useful for the detection and measurement of changes while also examining repairs and restorations. Headwall's Hyperspec[®] sensors are available for the VIS (380-825nm), VNIR (380-1000nm), Extended VNIR (550-1700nm), NIR (900-1700nm), SWIR (950-2500nm) ranges and beyond. These sensors are used in conjunction with Headwall's advanced and easy to use Hyperspec[®] III software.

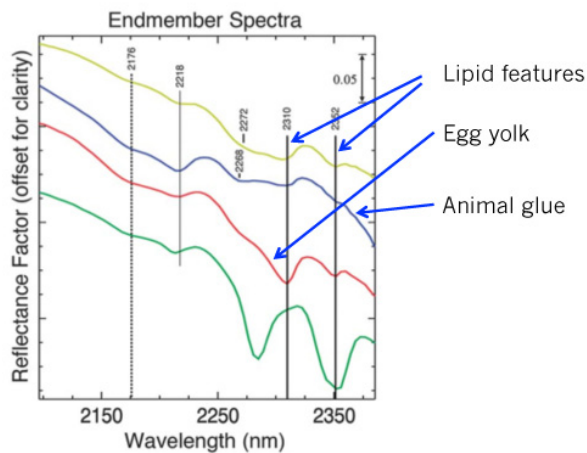


Hyperspec[®] sensor

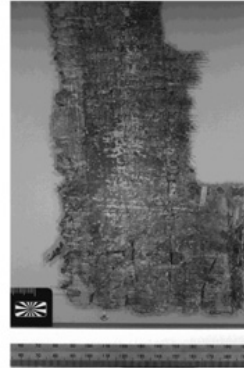


Hyperspec[®] III software

Pigment & Binder Mapping



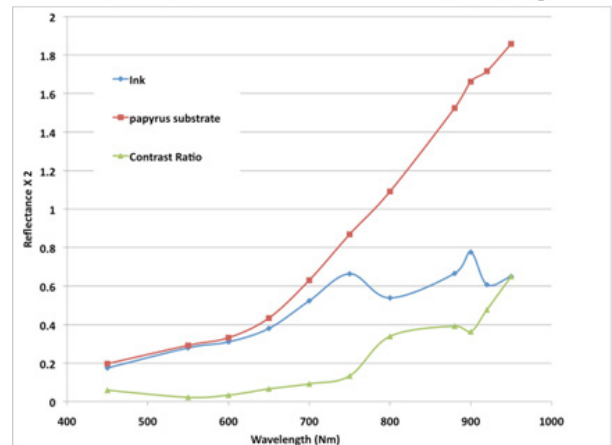
Papyrus Example



450 nm image



940 nm image



Spectral Imaging to Detect Corrosion from iron-gall Inks



Ink drawing with iron-gall ink corrosion, which also appears black



False color composite shows corroded areas in black, on lower right, and ink in red

Analyze stone destruction over time with hyperspectral imaging



Qualitative change over time: Progression of salt-weathering at Huntingto Mausoleum, San Marino, CA



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