

require intensive data processing that would limit the ability to work in real time acquisition modes.

In summary, we have demonstrated a new method for conducting color and spectral imaging using spectral encoding by scanning the two-dimensional spectrally encoded frame along the wavelength axis. This method was demonstrated by spectral imaging of a resolution test target, a color printed image and a live green leaf. Using spectral encoding at both the illumination and the collection channels, SESI would have an improved SNR over current point and line scanning techniques, and would provide spectral resolution which is limited only by the optical properties of the imaging optics.

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