



Errata to the JACIE Program

Schedule changes

Session # 7, Mike Tully will not be present (abstract 14.001)

Abstracts

14.031 Revision: Advanced Noise Reduction Techniques and Improvements

Mary Pagnutti

In almost all imaging disciplines, there is an ever increasing desire to improve spatial resolution, increase coverage and acquire imagery over wider illumination conditions. All of these goals will typically decrease a system's achievable SNR unless the sensor size or integration time is increased. Increasing integration time while not incurring motion induced blur, however, increases sensor complexity. Since there is also a compelling desire to minimize both the diameter of a sensor's optics up to its diffraction limit and the overall sensor length, these goals are usually met by decreasing the size of the detector. For many electro-optical systems decreasing the detector size decreases the well capacity and the amount of signal captured, both of which lower SNR. In order to continue to provide high quality image products while controlling the sensor's physical size and maintaining image sharpness, advanced denoising techniques can be applied to the input imagery. This paper discusses several standard and recently formulated sparse method image denoising techniques and illustrates the significant image quality improvements that can be obtained when using them.