

1086-65-2990

**Robert R. Muise\*** ([robert.r.muise@lmco.com](mailto:robert.r.muise@lmco.com)), Lockheed Martin Missiles and Fire Control, 5600 Sand Lake Rd, Orlando, FL 32819. *Optimal measurement kernel for wide-area compressive imaging*. Preliminary report.

For applications involving imaging very large areas with high resolution the traditional pixel-sensing of standard cameras becomes prohibitive. Compressive sensing offers an alternative sensor design for which information is sensed rather than pixels. Sparse models are then applied to a reconstruction operator to visualize the sensed imagery. Significant theoretical results exist which guarantee image reconstruction for the case when the sensing kernels are randomized. We present an alternative viewpoint for sensing kernel design which optimizes the reconstruction quality. (Received September 27, 2012)