

Cullen Bradley – M.S. in Electro-Optics from the University of Dayton, 2013 Thesis: “LADAR: A Mono-Static Design for Sense and Avoid Applications” B.S. in Physics, minor in math, St John Fisher College, 2010. Currently working part time for Exciting Technology LLC, ET, and part time for the University of Dayton conducting research on 3D LADAR imaging, continuous beam steering, and beam steering efficiency modeling. Worked on Liquid Crystal Polarization Gratings or LCPGs for their non-mechanical beam steering capabilities. Performed experiments testing laser damage threshold of optical materials. Setting up and operating high voltage EO effect crystals for continuous steering. Conducting digital holography / spatial heterodyne experiments. 2013 to 2014 worked for Utopia Compression, Dayton, OH : Responsible for system integration and component testing (fiber laser operation, beam steering control, APD detector and nanosecond pulse timing electronics) of a LADAR system for an Unmanned Aircraft System (UAS) for Sense and Avoid (SAA) applications. The SAA LADAR system was designed to mount in a compact gimbal and it was prototyped in our labs to receive signals to 9 km. Executed two successful demonstrations for AFRL. The two demonstrations include a ground to ground and a ground to air demonstration of the LADAR system. University of Dayton, Dayton, OH , 2013 Laboratory Manager LADAR and Optical Communications Institute, LOCI, Managed optical equipment in five laboratories and assisted ongoing research at LOCI including Zemax analysis and laser damage testing. University of Dayton, Dayton, OH, Grad assistant. 2010-2013 LOCI, Assisted in the design, building, and testing of a LADAR system made for an Unmanned Aircraft System (UAS). The system was built to accurately range 9 km and decrease false alarm rates in the existing UAS’s Sense and Avoid technology. The components of the LADAR system consisted of a fiber pulsed laser, an avalanche photo diode, a time-to-digital converter, and a tip/tilt beam scanner.