

Abstract Submitted
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Surface Registration Using a Multi-beam Optical Probe and Backscatter Reflectometer JEREMY DANIELSON, PATRICK YOUNK, Los Alamos Natl Lab, P-23 TEAM — We introduce a technique for locating the position and orientation of an object surrounding a compound optical probe. The probe allows for simultaneous measurement of ~ 150 points of laser velocimetry, and prior to a dynamic experiment it is important to know the initial position of the surface. Using an optical switch and a Luna OBRTM rangefinder, we measure the surface distance at hundreds of locations. These measurements are then combined with a dimensional inspection of the object and analysis routines to report the orientation and location of the inner surface relative to the probe. Location resolutions of <10 microns are demonstrated.

Jeremy Danielson
Los Alamos Natl Lab

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