

Abstract Submitted
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Dual Theta Assembly and Characterization System JUSTIN STOLP, CHRIS RUSSELL, Sandia National Laboratories, ERIC BREDEN, RANDY HOLT, WYOTEK KRYCH, SUZI GRINE-JONES, DIANA SCHROEN, GARY SMITH, JOHN STREIT, Schafer Corp — Target designs can contain specifications for precisely angled components and characterization of these targets can require multiple views at precise alignments. To meet these needs Target Fab has built a workstation capable of both assembly and characterization of these targets. Recent advances in motion controllers, optics, video CCDs, computer assisted metrology systems, and software format exchange are the building blocks we used in the development of the Dual Theta Assembly and Characterization System. This system has a working envelope of approximately 50mm^3 , with a field of view that ranges from 25mm^2 to less than 1mm^2 , and a spherical coordinate system that makes accurate target assembly and characterization of just about any design. This presentation will explore how the technologies are merged to help assist the research community with micro-component fabrication. I will discuss how commercially available systems can be configured to solve some of the more interesting challenges faced by a target fabricator when in the process of building a four or more axis assembly. I will show how video metrology can make the characterization of a target part of the assembly process instead of being a post-assembly step. This ability is extremely useful reducing time by allowing the builder to ensure quality during each step of assembly.

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