Coordinate Metrology Society
Coordinate Metrology Systems Conference 2005
Austin, Texas | July 18-22, 2005

CMS-2005-002

Testing of a 2-m Antenna for Use on the New Horizons Mission to Pluto

AUTHORS
John Troll

ORGANIZATION
Johns Hopkins University Applied Physics Laboratory

Published by the Coordinate Metrology Society. Reference number CMS-2005-002.
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ABSTRACT

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An overview of the results from measuring the shape, performance, and alignment of a 2-m composite High Gain Antenna (HGA) is presented. Many measurement techniques were used in conjunction to verify the utility of the HGA for use on the New Horizons mission to Pluto. Vector metrology between optical references provided a measure of internal alignment between components. Close-range digital photogrammetry was used during thermal vacuum testing (to -170 C) to verify shape and component alignment at temperature. And coherent laser radar measurements provided a dense matrix of dimensional measurements, supporting photogrammetry results and allowing analytical verification of measured RF performance.

Abstract as submitted to the Coordinate Metrology Society. Reference number CMS-2005-002.