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

CMS-2005-008

3-D From One Camera

AUTHORS
Thomas Luhmann

ORGANIZATION
University of Applied Sciences Oldenburg, Institute for Applied Photogrammetry and Remote Sensing, Germany

Published by the Coordinate Metrology Society. Reference number CMS-2005-008.
Copyright remains with the author(s). Redistribution requires permission.

ABSTRACT

3-D From One Camera

The paper discusses possibilities of measuring 3-D information with only one camera as it is useful for many dynamic single camera applications. Using only one imaging device is advantageous if, for instance, two or more cameras can not be afforded or if they can not be synchronized accurate enough. When high-speed image sequences with up to 1000 frames per second shall be recorded in order to monitor a highly dynamic process, camera costs are high and the synchronization becomes a difficult technical problem. One possible solution of getting 3-D information out of one single image is the extraction of the six degrees of freedom (6DOF) of a moving object with respect to a stable reference field by double space resection.

Abstract as submitted to the Coordinate Metrology Society. Reference number CMS-2005-008.