

PACKAGE ID - 001341IBMPC00 SOFTMOSS

KWIC TITLE - Software for a Multi-beam Optical Stress
Sensor

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 03/16/2000 **PUBLICATION DATE** - 03/16/2000

DESCRIPTION - This software program tracks multiple laser beam spots reflected from a substrate which is changing its shape in response to changes in environment or changes in its physical state. The geometry of the laser, substrate, camera, and substrate parameters result in a final measurement of the stress-thickness product that would bend the substrate to its final curvature. A typical example is thin film growth.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code, Programmer Documentation, Object Library, Program Flow Diagram, User's Guide;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

METHOD OF SOLUTION - The mean differential spacing of the laser beams, either in a one-dimensional or two-dimensional array pattern is measured. The mean differential spacing is used to infer the resulting change of radius of curvature of the substrate. the software recognizes the difference between one-dimensional arrays and two-dimensional arrays and measures each array dimension size.

COMPUTER - IBM PC

OPERATING SYSTEMS - Windows 2000/NT/9x, MAC OS

PROGRAMMING LANGUAGES - na

SOFTWARE LIMITATIONS - Acquires 8-bit grayscale images from CCD cameras, not VHS recorded tape. Laser power feedback has not been incorporated in this first version.

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SOFTWARE LIMITATIONS - (CONT)

SOURCE CODE AVAILABLE (Y/N) - Y

RELATED SOFTWARE - Requires the installation of National Instruments
LabView 5.1 and Advanced Image Acquisition (IMAQ) 5.0.

HARDWARE REQS - Requires the installation of a National Instruments
IMAQ PCI-1408 image acquisition board.

ABSTRACT STATUS - Released AS-IS 8/23/2000

SUBJECT CLASS CODE -

SPONSOR - DOE

PACKAGE TYPE - AS - IS