

PACKAGE ID - 000783IBMPC00 SHOESCAN

KWIC TITLE - Scanning Tunneling Microscope Data Acquisition
and Control System

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LIMITATION CODE -UNL **AUDIENCE CODE** - UNL

COMPLETION DATE - 03/01/1992 **PUBLICATION DATE** - 03/01/1992

DESCRIPTION - SHOESCAN is a PC based code that acquires and displays data for Scanning Tunneling Microscopes (STM). SHOESCAN interfaces with the STM through external electronic feedback and raster control circuits that are controlled by I/O boards on the PC bus. Data is displayed on a separate color monitor that is interfaced to the PC through an additional frame-grabber board. SHOESCAN can acquire a wide range of surface topographic information as well as surface electronic structure information.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code, Executable, User's Manual;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

COMPUTER - IBM PC

OPERATING SYSTEMS - MS DOS 3 or higher

PROGRAMMING LANGUAGES - MS Pascal (90%) and MS Assembler (10%)

SOFTWARE LIMITATIONS - Most data sets are restricted to 32K data points, however some scan types are available that exceed this limitation.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - SHOESCAN is written in a modular fashion which enables a user to develop additional data acquisition routines to incorporate into the program.

RELATED SOFTWARE - None

OTHER PROG/OPER SYS INFO - The data file names created by SHOESCAN contain 12 characters. The first two characters indicate the microscope code (user defined), the next 6 characters are a data code, and the file name extension indicates the scan type and datafile creation sequence. No additional routines are required for the full operation of SHOESCAN.

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HARDWARE REQS - The computer must be equipped with a full 640K of RAM and floating point processor capabilities. Additional hardware I/O boards are required: Imaging Technology VP1400 fram grabber; and Computer Boards CIO-DAC16, CIO-DAS16/330, and CIO-DIO24/24H.

TIME REQUIREMENTS - The time scale required for STM data acquisition is somewhat variable and depends on the operating parameters of the microscope, however typical data set acquisition times are from 20 seconds to several minutes.

REFERENCES - User's Guide on media

ABSTRACT STATUS - Submitted February 13, 1995. Released AS-IS February 22, 1995.

SUBJECT CLASS CODE - TN

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
S CODES
COMPUTERIZED CONTROL SYSTEMS
DATA ACQUISITION SYSTEMS
COMPUTER GRAPHICS
SCANNING ELECTRON MICROSCOPY

EDB SUBJECT CATEGORIES -

990200 440100

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS