

PACKAGE ID - 000234MLTPL00 ORION96*

KWIC TITLE - 2-d Finite Element Code Postprocessor

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

COMPLETION DATE - 05/01/1996 **PUBLICATION DATE** - 02/02/1992

DESCRIPTION - ORION is an interactive program that serves as a postprocessor for the analysis programs NIKE2D, DYNA2D, TOPAZ2D, and CHEMICAL TOPAZ2D. ORION reads binary plot files generated by the two-dimensional finite element codes currently used by the Methods Development Group at LLNL. Contour and color fringe plots of a large number of quantities may be displayed on meshes consisting of triangular and quadrilateral elements. ORION can compute strain measures, interface pressures along slide lines, reaction forces along constrained boundaries, and momentum. ORION has been applied to study the response of two-dimensional solids and structures undergoing finite deformations under a wide variety of large deformation transient dynamic and static problems and heat transfer analyses.

PACKAGE CONTENTS - Media Directory; Software Abstract; New Features in the MDG Codes; Installation Guides for SUN, IBM, and SGI; UCID-19310, Rev. 2; Media Includes Source Code, Compilation Instructions, Linking Instructions;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

METHOD OF SOLUTION - ORION re-constructs the geometry of parts and characteristics of the overlaying mesh based upon user-specified geometry. ORION can compute strain measures, interface pressures along slide lines, reaction forces along constrained boundaries, and momentum. ORION has the capability to plot: color fringes, contour lines, vector plots, principal stress lines, deformed meshes and material outlines, time histories, reaction forces along constrained boundaries, interface pressures along slide lines, and user-specified labels. The LLNL engineering analysis codes are undergoing continual improvements and enhancements. As such, ORION should be viewed as a firm foundation from which to begin preparation for subsequent analysis.

COMPUTER - MLT-PLTFM

OPERATING SYSTEMS - UNIX, VMS

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PROGRAMMING LANGUAGES - FORTRAN

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - Two-dimensional post-processing of finite element data analysis.

RELATED SOFTWARE - DYNA2D, NIKE2D, TOPAZ2D, CHEMICAL TOPAZ2D, and DIGLIB

OTHER PROG/OPER SYS INFO - The DIGLIB code is included with the package. This version differs from previous versions in that it has greater resolution gradation.

REFERENCES - John O. Hallquist and JoAnne L. Levatin, ORION: An Interactive Color Post-Processor for Two Dimensional Finite Element Codes, UCID-19310, Rev. 2, August 1985.

ABSTRACT STATUS - Submitted July 1996. Released screened 8/7/96

SUBJECT CLASS CODE - N

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
O CODES
TWO-DIMENSIONAL CALCULATIONS
INTERACTIVE DISPLAY DEVICES
MESH GENERATION
COMPUTER GRAPHICS

EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/DP

PACKAGE TYPE - SCREENED