

PACKAGE ID - 000803IBMPC00 ASR4

KWIC TITLE - Anelastic Strain Recovery Analysis Code

AUTHORS - Warpinski, N.R.
Sandia National Labs., Albuquerque, NM (United States)

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

COMPLETION DATE - 05/25/1989 **PUBLICATION DATE** - 05/01/1989

DESCRIPTION - ASR4 is a nonlinear least-squares regression of Anelastic Strain Recovery (ASR) data for the purpose of determining in situ stress orientations and magnitudes. ASR4 fits the viscoelastic model of Warpinski and Teufel to measure ASR data, calculates the stress orientations directly, and stress magnitudes if sufficient input data are available. The code also calculates the stress orientation using strain-rosette equations, and it calculates stress magnitudes using Blanton's approach, assuming sufficient input data are available.

PACKAGE CONTENTS - Media Directory; Software Abstract; SAND89-0484;
Media Includes Source Code, Object Code, Sample Problem Input;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 5.25 Diskette

METHOD OF SOLUTION - The viscoelastic analysis modls the time-dependent response, fitting the model to the experimental data, and calculating stress and material property information. The actual experimental data are least-squares fit using a modified Levenberg-Marquardt procedure.

COMPUTER - IBM PC

OPERATING SYSTEMS - MS DOS 3.1

PROGRAMMING LANGUAGES - FORTRAN 77

SOURCE CODE AVAILABLE (Y/N) - Y

HARDWARE REQS - Graphics use PLOT88 software by Plotworks, Inc., but the graphics software must be obtained by the user because of liscensing restrictions.

REFERENCES - N.R. Warpinski, ASR4: A Computer Code for Fitting and Processing 4-Gage Anelastic Strain Recovery Data, SAND89-0484, May 1989.

ABSTRACT STATUS - Released AS-IS 4/6/95.

SUBJECT CLASS CODE - I

E S T S C
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SOFTWARE ABSTRACT

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KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
A CODES
STRESSES
RESERVOIR ROCK

EDB SUBJECT CATEGORIES -

990200 422000

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS