

PACKAGE ID - 001039PSC8600 VECTRACK

KWIC TITLE - Teapot Tracking Engine for INTEL IPSC/860
Hypercube

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

COMPLETION DATE - 02/01/1993 **PUBLICATION DATE** - 02/01/1993

DESCRIPTION - Written for particle orbit tracking using TEAPOT formalism. Useful for tracking the behaviour of a large number of particles for a short to intermediate term. The lattice to be tracked must first be pre-processed by TEAPOT, all corrections applied and analyses performed. Vectrack is then used to investigate how particles or ensembles of particles will behave.

PACKAGE CONTENTS - Media Directory; Software Abstract; READ.ME File (1 page); User's Guide; Media Includes Source Code;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

METHOD OF SOLUTION - TEAPOT formalism, thin-element formalism.

COMPUTER - INTELIPSC860

OPERATING SYSTEMS - IPSC/860 Hypercube

PROGRAMMING LANGUAGES - C

SOFTWARE LIMITATIONS - Codes does not use dynamic allocation.
Message-passing is not machine-independent.

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - Code allows for lattice to have RF stations at which the particles are given an impulsive longitudinal kick. Combined with thin-element formalism to include path length difference for off-momentum particles enables the code to realistically simulate single-particle motion during acceleration assuming a constant closed orbit. Can also simulate injection damping and the effects of power-supply ripple.

RELATED SOFTWARE - TEAPOT, FTPOT

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OTHER PROG/OPER SYS INFO - Files used are described in the postscript
file Vectrack.ps.

HARDWARE REQS - Intel IPSC/860 Hypercube.

ABSTRACT STATUS - Released AS-IS 7/12/95.

SUBJECT CLASS CODE - V

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
V CODES
BEAM DYNAMICS
ACCELERATORS
HYPERCUBE COMPUTERS

EDB SUBJECT CATEGORIES -
990200 430200

SPONSOR - DOE/ER

PACKAGE TYPE - AS - IS