

PACKAGE ID - 000424MNF00 HILDA

KWIC TITLE - Heavy Ion Linac Design Analysis Code

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

COMPLETION DATE - 10/30/1991 **PUBLICATION DATE** - 10/30/1991

DESCRIPTION - HILDA is a program which estimates the cost and finds an optimal design for HIF induction linac drivers. It can model near-term machines as well as full-scale drivers. Code objectives are: (1) A relatively detailed, but easily understood model. (2) Modular, structured code to facilitate making changes in the model, the cost algorithm, program structure and generated reports.

PACKAGE CONTENTS - Media Directory; Software abstract; LBL-31917; Media Includes Source Code, Text Library, User Guide, Auxiliary Material, Compilation Instructions, Linking Instructions, Sample Problem Input and Output Data, Programmer Documentation;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 3 3.5 diskettes

METHOD OF SOLUTION - A user specified search grid of allowable parameter values is searched. A simple analytic model is used to establish whether the beam can be transported using the selected parameters. For transportable beams acceleration focusing components are design and their cost determined. For the machine of minimum cost a complete logfile containing all relevant parameters is created and saved for later use. The design found satisfies user supplied constraints.

COMPUTER - MAINFRAMES

OPERATING SYSTEMS - In principal any system which can compile and execute FORTRAN code.

PROGRAMMING LANGUAGES - FORTRAN

SOFTWARE LIMITATIONS - Standard FORTRAN 77, except for name lengths which may exceed 7 characters.

SOURCE CODE AVAILABLE (Y/N) - Y

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UNIQUE FEATURES - All modules treated are stand alone, command driven procedures. Open ended building block model. Procedures are self documented by using fully formatted source text which is then downloaded, compiled, and linked to produce executable code.

OTHER PROG/OPER SYS INFO - Successful operation strongly dependent on knowledgeable user interaction and data preparation. Not meant to be a Black Box program. In its present state needs further user interface development, further model extensions.

HARDWARE REQS - In principal any platform that can run FORTRAN. A Macintosh with a full featured word processor such as Microsoft Word for updating, a spread sheet application such as Microsoft Excel for data analysis and report generation.

TIME REQUIREMENTS - On a DEC VAX 6800 typical time for a single design is 1-2 seconds.

REFERENCES - E. Close, C. Fong, and E. Lee, The HILDA Program, LBL-31917, October 1991.

ABSTRACT STATUS - Submitted May 1992.

SUBJECT CLASS CODE - V

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
H CODES
DESIGN
COST BENEFIT ANALYSIS
ECONOMIC ANALYSIS
ECONOMICS
ENERGY SOURCES
HEAVY IONS
INERTIAL CONFINEMENT
HILACS
HEAVY ION FUSION REACTIONS
ION BEAM FUSION REACTORS

EDB SUBJECT CATEGORIES -

990200 700411 430100

SPONSOR - DOE/ER

PACKAGE TYPE - SCREENED