

PACKAGE ID - 001195MLTPL00 GAUSS IX

KWIC TITLE - Interactive Analysis of Gamm-ray Spectra from
GE Semiconductor Detectors

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

COMPLETION DATE - 10/01/1994 **PUBLICATION DATE** - 01/01/1997

DESCRIPTION - GAUSS IX is a tool to interactively analyze gamma-ray spectra from Ge Semiconductor detectors. The user has full control over the view of the spectrum being analyzed and the location of the peaks and peak regions. Analysis is performed at user request to the requested peak regions. The fit of a peak region can be previewed before archival or deletion. An iterative procedure is available for calibrating the energy and width equations.

PACKAGE CONTENTS - Media Directory; Software Abstract; Installation Instructions (2 pages); Media Includes Source Code, User's Guide in Adobe Acrobat PDF Format, Executable Module, Auxiliary Material, Compilation Instructions, Sample Problem Input Data;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 CD Rom

METHOD OF SOLUTION - The graphical user interface is implemented in the C programming language with OSF/Motif wundows in the X window system. The X window system is accessed indirectly via an in-house product known as FormBuilder. (Point of contact is Mike Snyder.) The underlying algorithms are provided by the in-house product known as Gauss Algorithms. The constraints (i.e. maximum number of peaks allowed) follow those in Gauss VII.

COMPUTER - MLT-PLTFM

OPERATING SYSTEMS - Silicon Graphics Irix 5.3; Sun Microsystems Solaris 2.5; Microsoft Windows 95 (with Hummingbird license)

PROGRAMMING LANGUAGES - Ansi C

SOFTWARE LIMITATIONS - Currently, filenames (including path) limited to 256 characters. Currently, max of 300 peaks, max of 200-300 regions (fewer peaks and regions can be used during calibration). Max of 10 peaks per peak region. Max of 10 best fits returned per analysis of a peak region. Max of 20 tuples can be input to calibration.

SOURCE CODE AVAILABLE (Y/N) - Y

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UNIQUE FEATURES - The user has full control over view of spectrum; the current view is resizable; the view is scrollable horizontally and vertically; the zoom can be quickly adjusted horizontally and vertically with sliders; a rubber band box mechanism can be used to choose a subset of the current view to be the new view. The setup of peaks and peak regions can be done by invoking a search, by loading a list, or by using the mouse to point and click at the desired locations. The current list of peaks and peak regions is displayed in the graph of the spectrum. The analysis is done on the selected peak regions, and the graph of the resulting fit can be viewed before archival or deletion of each fit.

RELATED SOFTWARE - GAUSS IX is embedded with Gauss Algorithms and FormBuilder. Hummingbird Communications Lts's product Exceed is needed to run GAUSS IX under Windows 95.

OTHER PROG/OPER SYS INFO - Spectral data filenames are expected to have one of the following suffixes: his, spk, chn, and iec. if there is no suffix, then the RMS format is assumed. The main part of the filename is used to name files created at runtime. Files containing information from previous runs have the following suffixes: parm, reg pk, regn, rgd pk, elbl, rslt, and summ. And the filenames are of the form specfilerootname suffix. One needs the X window system with version 1.2 of the OSF/Motif Widget set, FormBuilder, and Gauss Algorithms to build this product under IRIX or Solaris. One needs Exceed XDK 5.1.3, Visual C++ 5.0, FormBuilder, and Gauss Algorithms to compile this product under Windows 95.

HARDWARE REQS - There are no special requirements for IRIX or Solaris. For Windows 95, GAUSS IX should be able to run on an Intel 80386 processor with 16 MB of RAM. We suggest you have an Intel Pentium processor, and 32 MB of RAM.

TIME REQUIREMENTS - Time to use this tool is mostly user driven. each request is small and the tool responds quickly. But the user may need to make numerous requests and think a lot while using this tool. When the tool is started, an empty window is displayed. when the user requests to open a spectrum, it is displayed in the window. The tool is very interactive.

REFERENCES - User's manual on media.

ABSTRACT STATUS - Released AS-IS 4/27/1998.

SUBJECT CLASS CODE - I

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
G CODES
GAMMA SPECTROMETERS

EDB SUBJECT CATEGORIES -
990200

E S T S C
ENERGY SCIENCE & TECHNOLOGY SOFTWARE CENTER
SOFTWARE ABSTRACT

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SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS