XA9333832

INTERNATIONAL ATOMIC ENERGY AGENCY

NUCLEAR DATA SERVICES

DOCUMENTATION SERIES OF THE IAEA NUCLEAR DATA SECTION

IAEA-NDS-112
Rev. 1

"XG Standards"
Version 91-8-6

X-RAY AND GAMMA-RAY STANDARDS FOR DETECTOR CALIBRATION

Introduction

This PC file includes the recommended values of decay parameters of selected radionucides to be used for X-ray and gamma-ray detector efficiency calibration. The data are the result of the work of an IAEA Co-ordinated Research Project 1986 to 1990 with the following participants: W. Bambynek, T. Barta, P. Christmas, N. Coursol, K. Debertin, R.G. Helmer, R. Jedlovszky, A.L. Nichols, F.J. Schima, Y. Yoshizawa, and with A. Lorenz and H.D. Lemmel as IAEA Scientific Secretaries. The work has been published in IAEA-TECDOC-619 (1991).

The PC diskette presents for the selected radionuclides three tables for the recommended standard values and uncertainties of their

half-lives,
energies and emission probabilities of X-rays, and
energies and emission probabilities of gamma-rays.

The data are shown in either nuclide sort or energy sort. Users who want to use only some of the radionuclides, may mark their preferred nuclides so that they obtain a selective retrieval either on the screen or on the printer.

The diskette is available upon request, free of charge, from the IAEA Nuclear Data Section, P.O. Box 100, A-1400 Vienna, Austria.

The diskette contains 7 files with together 213 kbytes.

XG_READ.ME
XG.EXE
HL.DBF
XRAY.DBF
XRAYE.NTX
GRAY.DBF
GRAYE.NTX

The program is called by typing X G Enter.

H.D. Lemmel
1991-8-6

Nuclear Data Section
International Atomic Energy Agency
P.O. Box 100
A-1400 Vienna
Austria

e-mail: RNDS@IAEA1,BITNET
fax: (43-1)234564
cable: INATOM VIENNA
telex: 1-12645 atom a
telephone: (43-1)2360-1709

Related Literature:

Gamma and X-ray Spectrometry with Semiconductor Detectors. K. Debertin and R.G. Helmer. Available for 180.- Dutch Florin from Elsevier Scientific Publishers, P.O. Box 211, NL-1000 Amsterdam, Netherlands.

- Chapter: 1. Background material
- Chapter: 2. Experimental set-up
- Chapter: 3. Spectrum analysis and energy measurements
- Chapter: 4. Efficiency calibration and emission-rate measurements
- Chapter: 5. Applications
- Chapter: 6. Atomic and nuclear data