Record Nr. UNISA996279879303316 ANSI Std N42.14-1991: Calibration and Use of Germanium **Titolo** Spectrometers for the Measurement of Gamma-Ray Emission Rates of Radionuclides / / Institute of Electrical and Electronics Engineers New York, New York:,: IEEE,, 1991 Pubbl/distr/stampa **ISBN** 1-55937-134-X Descrizione fisica 1 online resource (76 pages) Disciplina 621.381522 Germanium diodes - Standards Soggetti Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto Methods for the calibration and use of germanium spectrometers for the measurement of gamma-ray energies and emission rates over the energy range from 59 keV to approximately 3000 keV and for the calculation of source activities from these measurements are established. Minimum requirements for automated peak finding are stated. Methods for measuring the full-energy peak efficiency with calibrated sources are given. Performance tests that ascertain the proper functioning of the Ge spectrometer and evaluate the limitations of the algorithms used for locating and fitting single and multiple peaks are described. Methods for the measurement of and the correction for pulse pileup are suggested. Techniques are recommended for the inspection of spectral-analysis results for large errors resulting from summing of cascade gamma rays in the detector. Suggestions are provided for the establishment of data libraries for radionuclide identification, decay corrections, and the conversion of

gamma-ray rates to decay rates.