

PEGASO: a library of gamma spectra from U and Pu samples

J. Loeschner¹, P. Peerani¹, A. Ravazzani¹, P. Schillebeeckx², E. Oggioni³

1) European Commission, DG-JRC, IPSC, Ispra (Italy)

2) European Commission, DG-JRC, IRMM, Geel (Belgium)

3) SYREA Srl, Milano (Italy)

e-mail: jan.loeschner@jrc.it

Experimental activity produces a large amount of data.

These are often stored in a non-organised way:

- on different devices (files and/or paper)
- in different places (measurement/item data)
- incomplete (loss of relevant information)

PEGaSO

PERLA Gamma Spectra Organiser

PEGaSO is an electronic gamma spectra library. It has been set up to store electronically all information about all the measurements performed in the laboratory, PERLA reference samples and the various combinations of detectors and electronic acquisition devices used. PEGaSO archives the gamma spectra tracing well-defined experimental conditions and reporting quality indicators.

All relevant information is stored in the data base and available for any future use.

It can be accessed from everywhere (web-based application) from authorised users.

PEGaSO avoids repetition of measurements, reducing so waste of time and resources and dose exposure of personnel.



ITEM DESCRIPTION		GEOMETRICAL CONDITION	
SampleID: AE06	Item - detector orientation: Side	Item - detector distance: 1.5 cm	
SampleFamily: AEA S.M. No 82015		Collimator:	
OA Composition: Pu02		Material:	
Material Type: powder		Thickness: 0 mm	
Container Type: AEA Cylinder		Hole diameter: 0 mm	
Attenuators:		Cu Filter thickness: 1.5 mm	
Material: no material		Cu Filter thickness: 0.5 mm	
Thickness: 0 mm			
PHOTON DETECTOR		ACQUISITION CHAIN	
DetectorType: Planar	ChainType: Conventional	Reference Pulse:	
SerialNumber: GLP16195/10-P	Supplier and Model: EG&G Ortec; Research pulser 418	CounterType:	
Supplier: EG&G Ortec	Supplier and Model: EG&G Ortec; Counter and timer 776	HV Supply:	
	Supplier and Model: EG&G Ortec; Bias Supply 409	Amplifier:	
		Supplier and Model: EG&G Ortec	
		PulseShape: Gaussian Unipolar	
		ShapingTime: 2.000000	
		Pur: On	
		Model and Supplier: Spectrum Master 919EG&G Ortec	
		Memory Buffer:	
		Model and Supplier: Spectrum Master 919EG&G Ortec	
		Conversion Gain: 8 k	
		Spectrum Size: 8 k	
MEASUREMENT DATA		QUALITY INDICATORS	
FileName: 06a7b	Date: 22/07/98	QualityIndicators:	
RealTime: 3408 s			
LiveTime: 3137 s			
DeadTime: 2.735%			
Input CountRate: 3076 1/s			
	Date: 22-11-98		
	Operator:		
	Signature:		

Conclusion

PEGaSO is an electronic gamma spectra library providing a controlled web access to a wide range of measurements performed in PERLA facility. The flexible user interface allows an easy consultation. New spectra can be added on-line if all the required information is given and quality indicators are specified. The 1500 spectra already included cover a wide range of nuclear material samples and acquisition devices. They were performed in various experimental conditions under well-controlled (quality indicators) and documented (internal data sheets) conditions.

