

**2<sup>nd</sup> RCM of the CRP on**

**REFERENCE DATABASE FOR NEUTRON  
ACTIVATION ANALYSIS**

**7 – 9 May 2007 Vienna, Austria**

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International Atomic Energy Agency

# CRP Objectives

- Improve database of nuclear constants for  $k_0$  NAA (improved  $k_0$  library).
- Improve consistency between integral and differential data (activation cross section library).
- Contribute to nuclear structure and decay data (EGAF database).
- Extend applicability of  $k_0$  NAA.

# Why $k_0$ -IAEA?

Problems in determining the nuclear constants arise from invalid assumptions about the neutron spectrum.

Requirements for progress:

- Access to the source code of the analysis software
- Access to the database of nuclear constants

The  $k_0$ -IAEA software fulfils both these requirements.

# Tasks

- **Detector calibration**
  - Gamma energy calibration
  - Geometry
- **Neutron spectrum characterisation**
  - Computational methods (Monte Carlo simulation)
  - Spectrum unfolding
- **Spectrum processing methods**
  - Inter-comparison between codes
- **Nuclear database of integral constants**
  - Existing data and new measurements