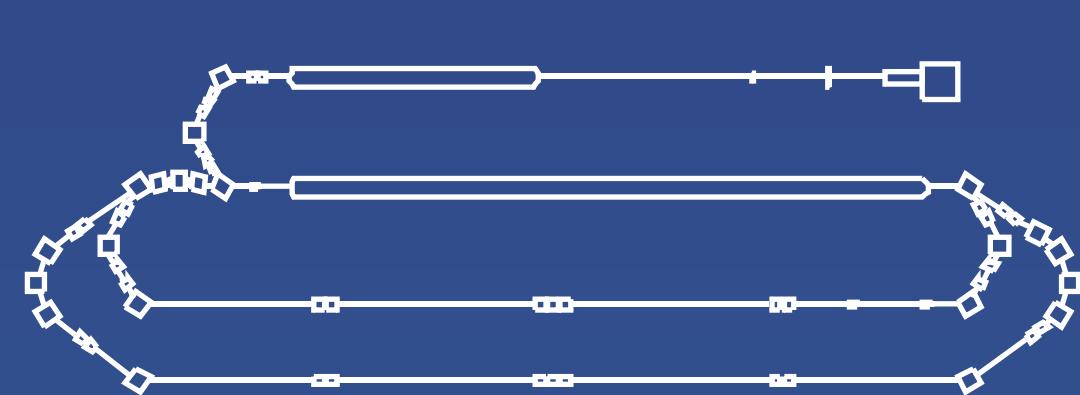




Gamma calibration of a liquid scintillation neutron ball for electron scattering coincidence experiments at the S-DALINAC *

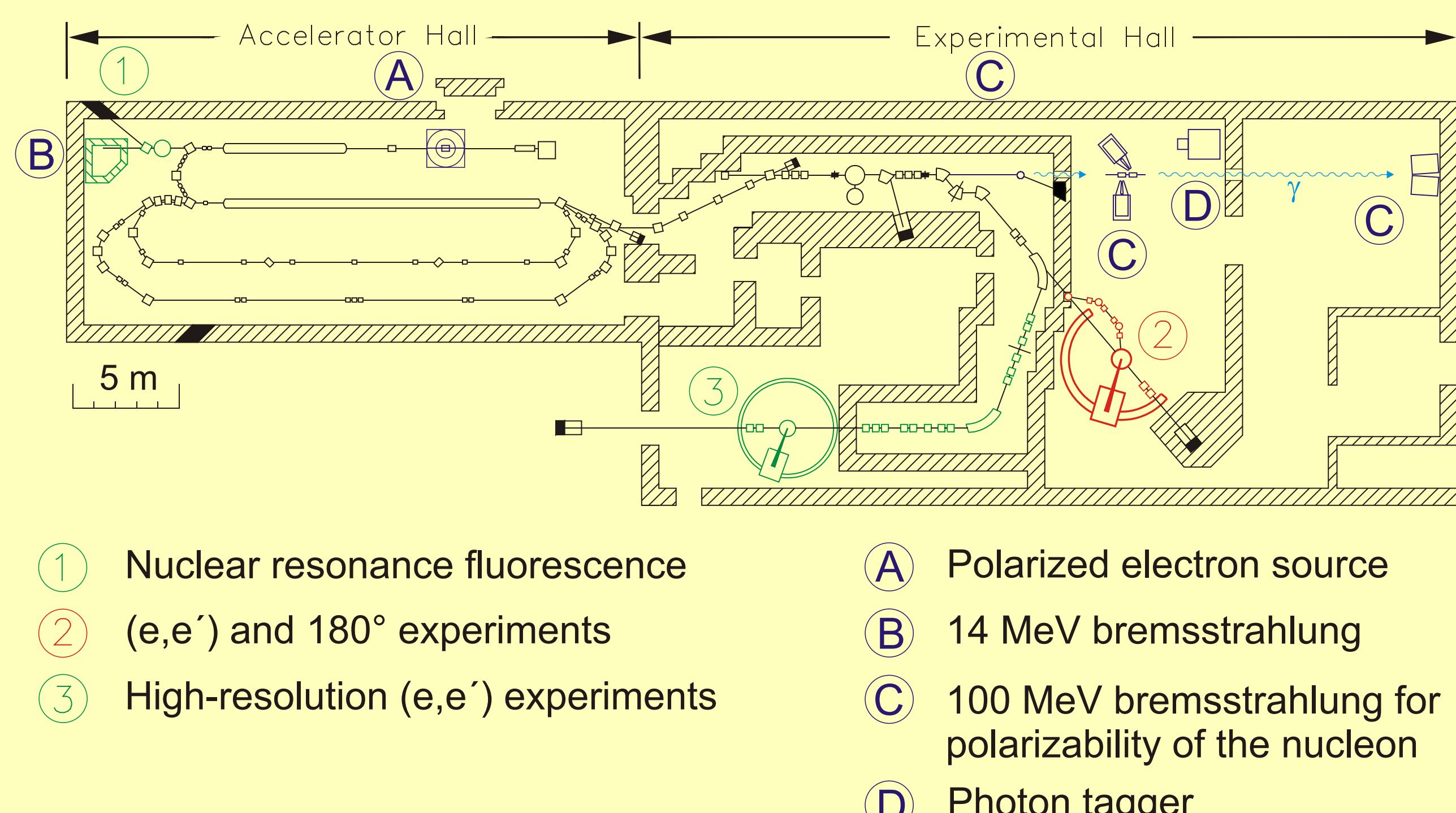


A.M. Heilmann, M. Chernykh, P. von Neumann-Cosel, and A. Richter
Institut für Kernphysik, Technische Universität Darmstadt, Germany

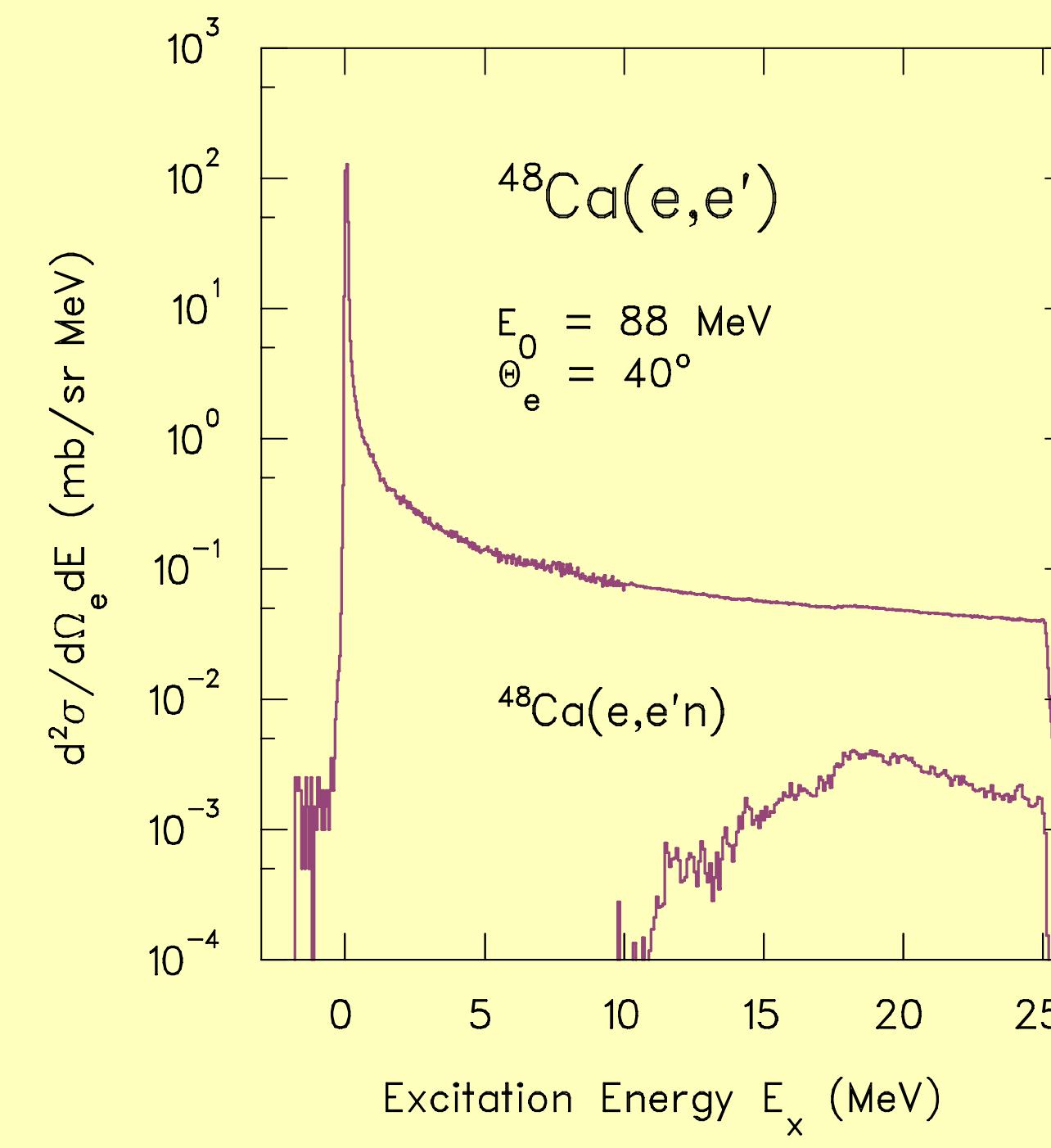
DPG Frühjahrstagung 2008
Darmstadt
HK 34.47

* Supported by the DFG through SFB 634

S-DALINAC

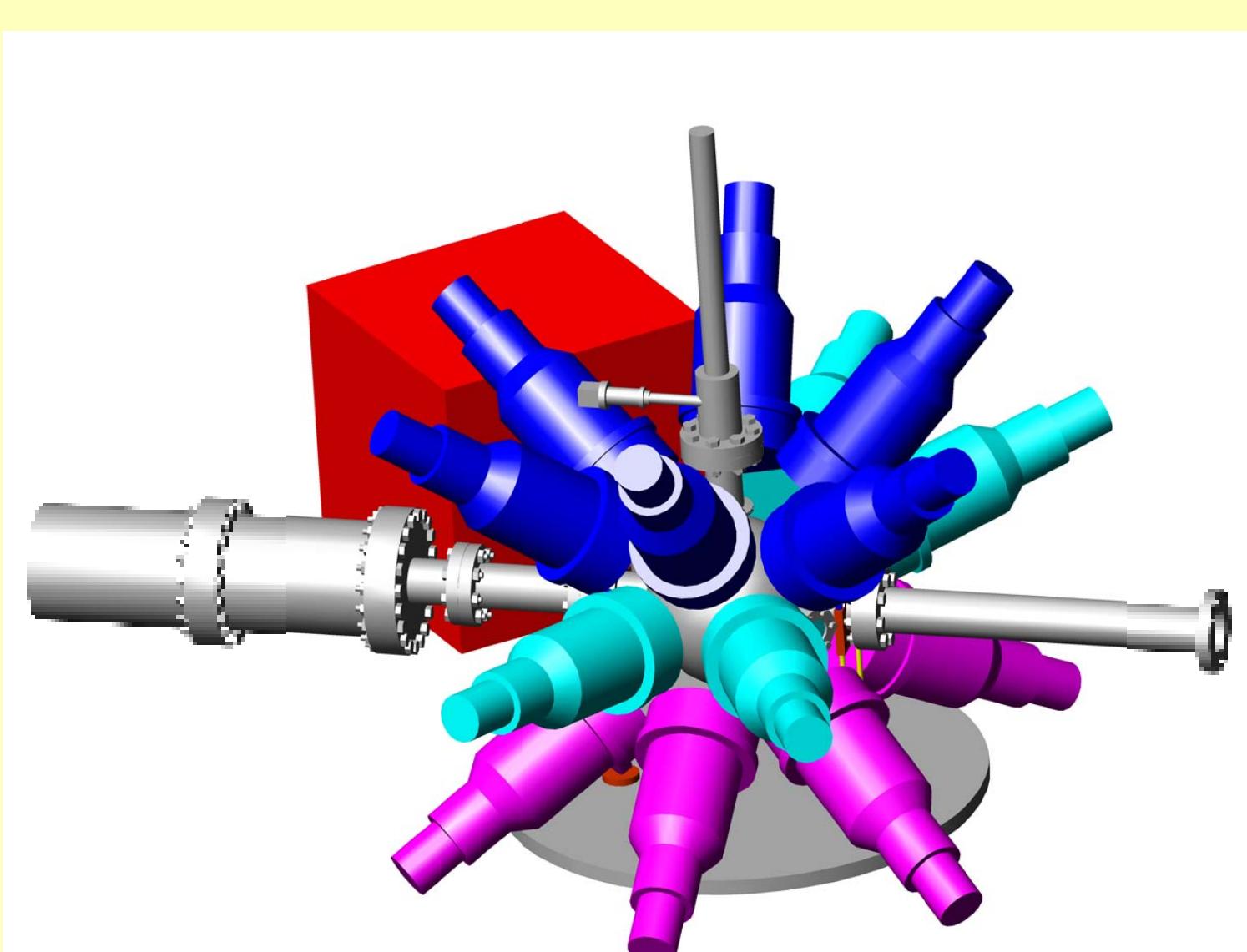


Motivation



- Study of ISGDR
- Extraction of nuclear incompressibility
- Coincidence measurements for radiative tail suppression
- Background free spectra

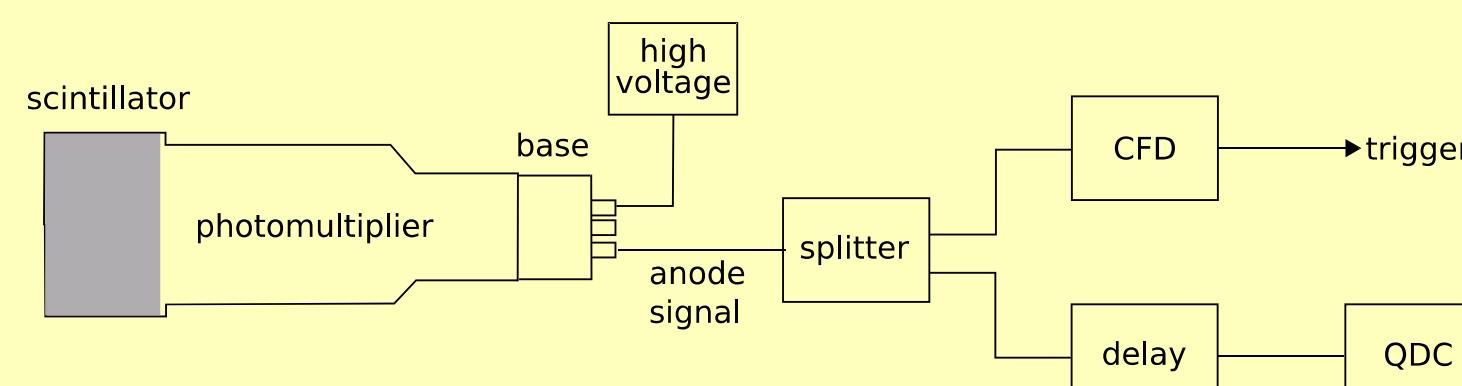
Neutron Ball



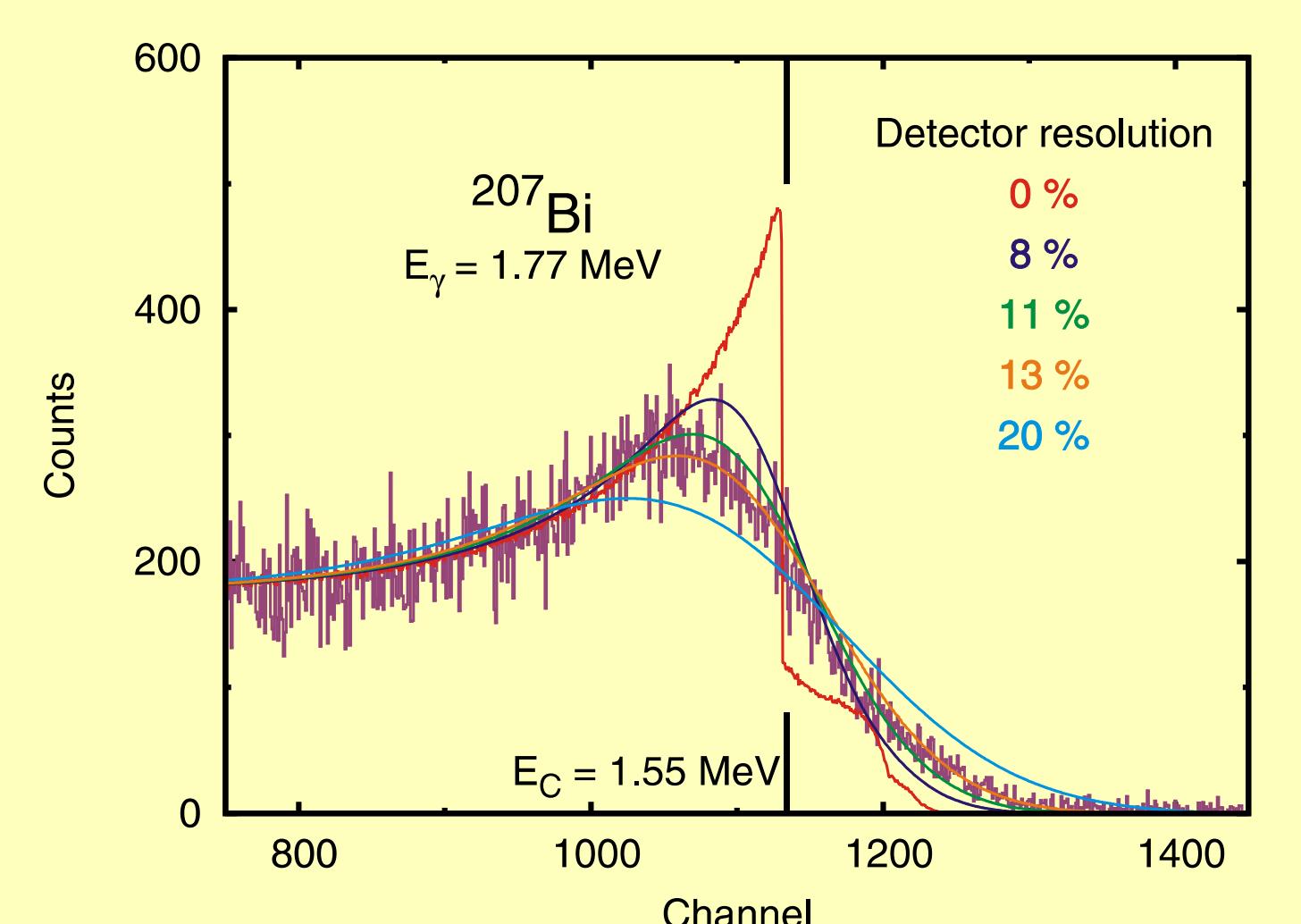
- Liquid scintillators BC501A
- Solid angle 1.3π
- High neutron efficiency
- n/γ Discrimination
- Fast detector response
- Compact geometry

M. Chernykh, doctoral theses, D17, TU Darmstadt, in preparation

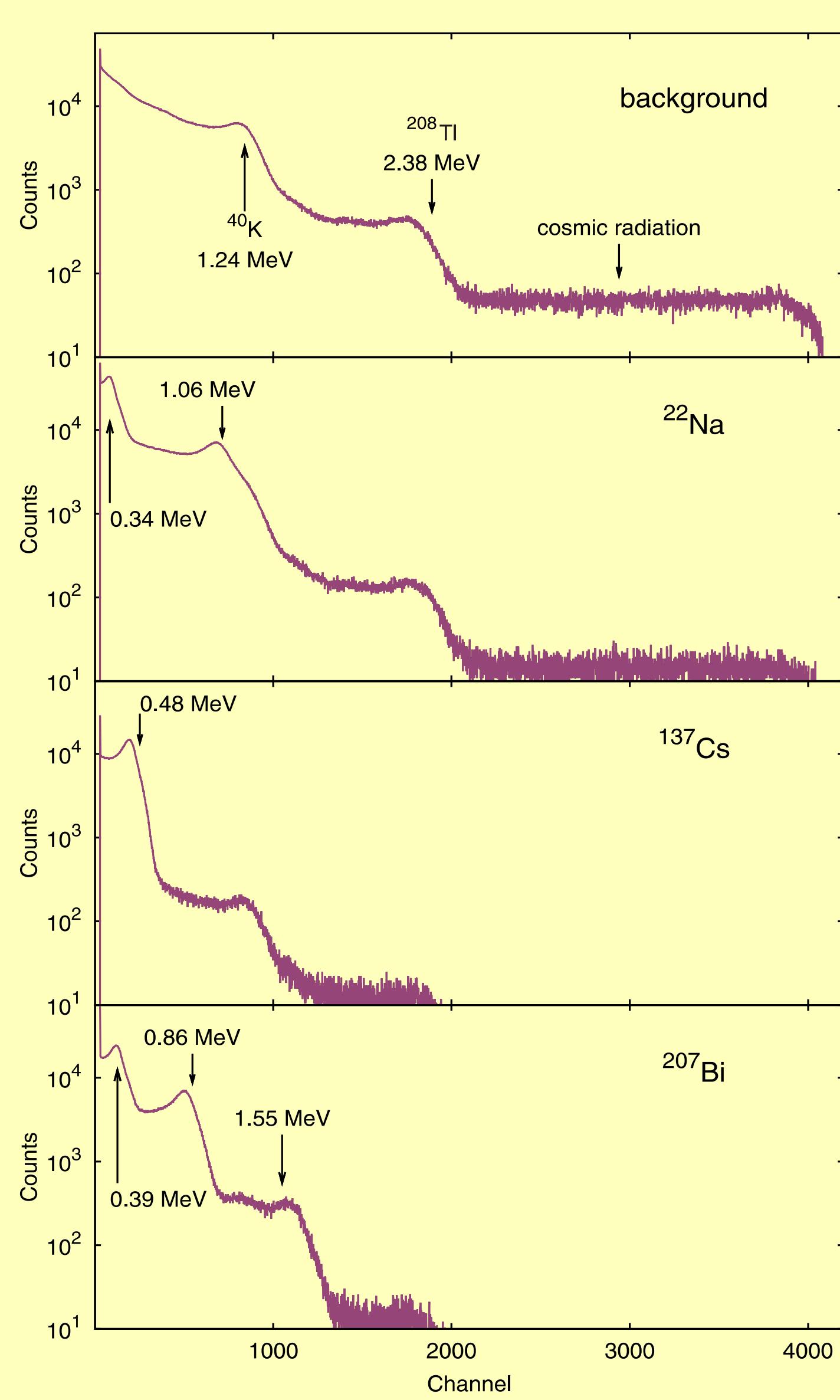
Calibration Method



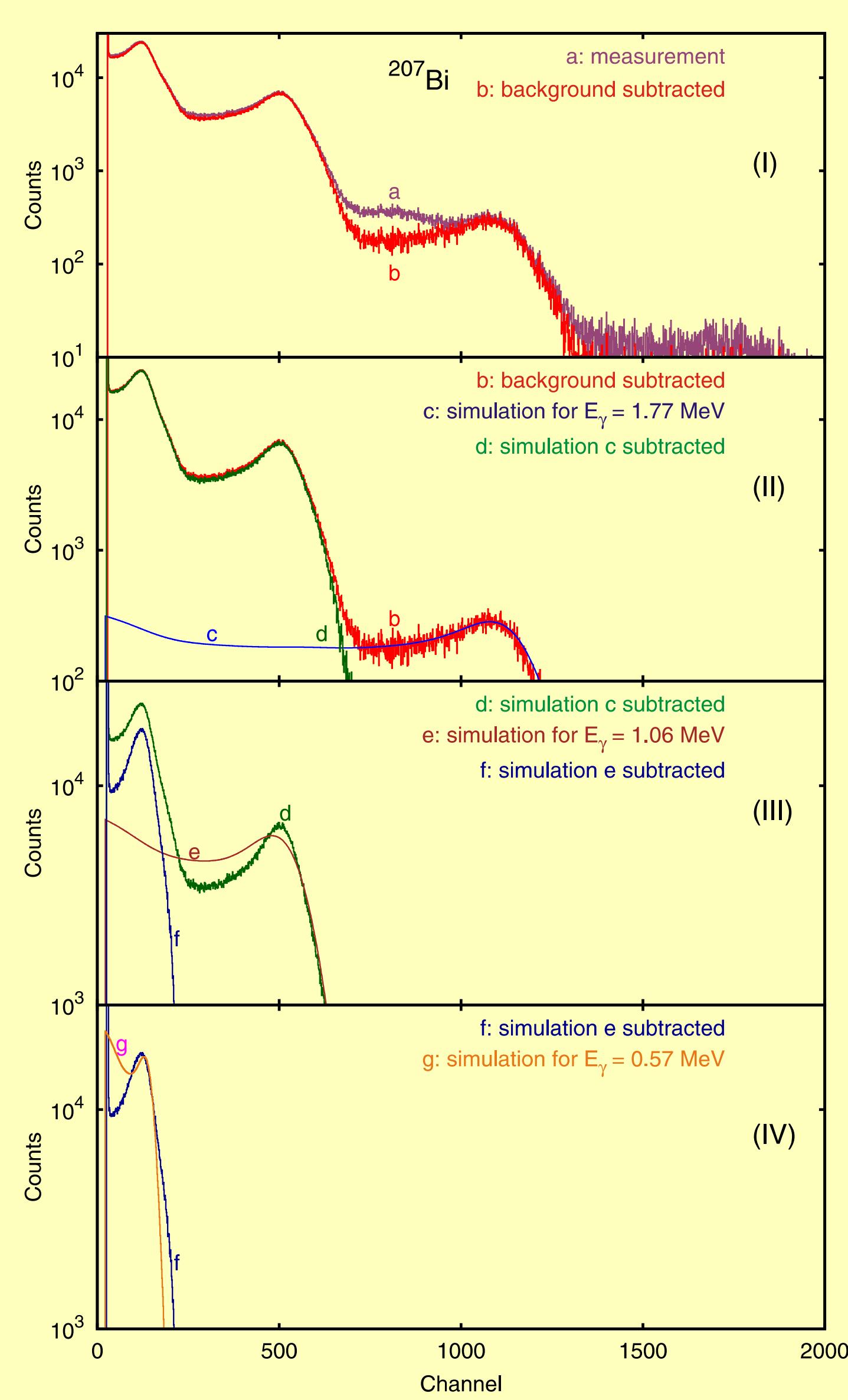
- Simultaneous measurement using all neutron detectors
- Simulation with PHRESP*
- Folding of simulation with detector resolution
- Fit to measured spectrum



Spectra



Decomposition



Results

