RadChem 2010



Contribution ID: 244

Type: Poster

Development of k₀-cyclic neutron activation analysis at the Portuguese research reactor

Tuesday, 20 April 2010 11:45 (20 minutes)

The fast pneumatic transfer system (SIPRA) for short irradiations at the Portuguese research reactor has been upgraded with a new spectrometer incorporating Zero-DeadTime corrections and new software for use alongside a modern computer. The development of cyclic NAA based on the k0 methodology for SIPRA has been performed. To ensure the accuracy of the system for very short lived nuclides (e.g. 77mSe and 20F), the calibration of transit time with millisecond timing resolution was performed. The results of k0-cyclic NAA for standard reference materials have been shown with a particular focus on selenium.

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Session Classification: Poster Session - Nuclear Analytical Methods

Track Classification: Nuclear Analytical Methods