



Contribution ID: 216

Type: **Wedge Participant**

## A New Technology of Neutron Multiplicity Counting for Nuclear Safeguards

This work had optimal designed and established a new technology based device of neutron multiplicity counting for nuclear material accountancy in nuclear safeguards, and carried out some related performance testing, which indicated the operating state of this device was completely normal and all the indications were acceptable. Meanwhile, some related research for neutron multiplicity counting had been done, which included the simulated measurements in the laboratory for source Cf-252 and plutonium standards. The experimental results shows that the detection efficiency of this device is better than 15%, the relative standard deviation of measurements is 5.65%, and the measurement accuracy is better than 90%, which proved if condition allowed, by long-time signal collection, this new technology based device of neutron multiplicity counting has capability to take the place of He-3 detector based neutron multiplicity counting, and accomplish the quantification tasks for nuclear material accountancy in nuclear safeguards by neutron multiplicity analysis.

### Which "Key Question" does your Abstract address?

NEW1.2

### Which alternative "Key Question" does your Abstract address? (if any)

NEW1.5

### Topics

NEW1

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**Session Classification:** [SGI] Improvements in the Field: Enhancements to Measurement Techniques

**Track Classification:** Shaping the future of safeguards implementation (SGI)