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**Could the uranium fission interference factor be used to determination of cumulative fission yield?,**

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The  $^{235}\text{U}$  cumulative fission yield is an important parameter used to quantify the formation of radioisotopes due to uranium fission. The usual way to obtain this parameter is by thermal neutron irradiation of uranium standards. In this study, a new method is proposed in which the U fission interference factor and the epithermal to thermal neutron fluxes ratio are used. To test this method, the  $^{147}\text{Nd}$  fission product was chosen and the  $^{235}\text{U}$  cumulative fission yield for  $^{147}\text{Nd}$  was determined using the experimental uranium fission interference factor by Instrumental Neutron Activation Analysis (INAA) and epithermal to thermal neutron fluxes ratio. The determination of experimental U fission interference factor was carried out by 18 synthetic standards irradiation with known masses of Nd and U in a specific position at the IEA-R1 research nuclear reactor for 8 hours. The value for U fission interference factor for  $^{147}\text{Nd}$  obtained applying different statistical methods of robust means to the individual results, was  $0.200 \pm 0.007$ . To calculate the cumulative fission yield the epithermal to thermal neutron fluxes ratio in the same position where synthetic standards of Nd and U were irradiated using the cadmium ratio technique. The obtained value for the cumulative fission yield for  $^{147}\text{Nd}$  was  $0.0232 \pm 0.0007$ , and it is statistically compatible with the value reported by the International Atomic Energy Agency (IAEA), of  $0.0223 \pm 0.004$ .