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Cross-section measurements for neutron-induced reactions in Co and Au at neutron energy of 60 MeV

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Abstract content
   (Max 300 words)
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The IRDFF library currently consists of more than 70 reactions that are important for reactor dosimetry, fusion and fission studies. Moreover, there are few existing experimental data at this energy range and most of them have large uncertainties (30-50%). Theoretical model calculations provide an additional source of cross-section data but more experimental data are still required for benchmarking calculations and for the adjustment of model parameters where necessary. New evaluations are proposed on the basis of new experimental data combined with data obtained from consistent theoretical model calculations. Evaluated libraries and the few existing experimental data mainly agree on the shape of the cross-section, but differ in absolute values.
Neutron induced cross section measurements for the (n, 3-6n) reactions of various target materials using quasi mono-energetic neutron beams are being conducted at iThemba LABS to improve and extend the International Reactor Dosimetry Fusion File (IRDFF) library.

For this contribution we will report on the cross section measurement for neutron induced reactions, 59Co(n,3n)57Co and 197Au(n,4n)194Au using quasi-monoenergetic neutron beam of 60 MeV.

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