Cross sections for γ-ray production in the ^{191}Ir$(n, xn\gamma)$ reactions

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Discrete γ-ray spectra have been measured for nuclei populated in ^{191}Ir$(n, xn\gamma)$ reactions, with $x \leq 7$, as a function of incident neutron energy using neutrons from the "white" neutron source at the Los Alamos Neutron Science Center's WNR facility. The energy of the neutrons was determined using the time-of-flight technique. The data were taken using the GEANIE spectrometer comprised of 26 high-purity Ge detectors with 20 BGO escape-suppression shields. The cross sections for emission of several γ-rays of $^{185-191}$Ir were determined for neutron energies 1 MeV $< E_n <$100 MeV and a comparison with model calculations, using the GNASH reaction model, was made. These cross sections are also compared with older GEANIE results from the similar ^{193}Ir$(n, xn\gamma)$ reactions.

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