

$^{208}\text{Pb}(^{58}\text{Ni},^{57}\text{Ni})$ **1987Be03**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. Chen # and F. G. Kondev		NDS 126, 373 (2015)	30-Sep-2013

E=598, 1011 MeV ^{58}Bi beams were produced from the coupled tandem plus cyclotron at the Holifield Heavy Ion Research Facility (HHIRF). Target was $50 \mu\text{g}/\text{cm}^2$ ^{208}Pb evaporated onto $15 \mu\text{g}/\text{cm}^2$ carbon backings. Reaction products were momentum analyzed with the HHIRF broad-range magnetic spectrograph, FWHM=600 keV. Measured $\sigma(\theta)$. DWBA analysis.

The spectrum is complex and is analyzed using a complete set of bound and unbound orbitals. Included are the bound orbitals $2g_{9/2}$, $1i_{11/2}$, $1j_{15/2}$, $3d_{5/2}$, $2g_{7/2}$, and the unbound orbitals $3f$, $1j_{13/2}$, $2h$, and $1k_{17/2}$. The energy spectrum up to 10-15 MeV of excitation, and angular distributions for several selected excitation-energy intervals, are reasonably well described by this approach. The authors suggest that the spectrum is dominated by the transfer of neutrons from the valence shell of ^{58}Ni to bound and unbound shells in ^{209}Pb .