^{58}Ni(^{16}O,^{15}N),^{58}Ni(^{10}B,^{9}Be) 1990Br25,1986OkZU,1973Be12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 151, 1 (2018)	1-Apr-2018

Also ^{58}Ni(^{13}C,^{12}B).
Others: 1988Vo08, 1989ElZY.
1986OkZU: ^{58}Ni(^{16}O,^{15}N), E(^{16}O)=Coulomb barrier + 80 MeV, DWBA analysis.
1973Be12: ^{58}Ni(^{16}O,^{15}N), E(^{16}O)≈60 MeV, FWHM=300-400 keV, finite-range DWBA analysis of $\sigma(\theta)$, θ(c.m.)≈40°−65°.
1988Vo08: ^{58}Ni(^{13}C,^{12}B), E(^{13}C)=390 MeV, θ(c.m.)≈4.5°, FWHM≈800 keV, DWBA analysis.
1989ElZY: ^{58}Ni(^{10}B,^{9}Be), E(^{10}B)=102 MeV, θ(lab)=10°, preliminary ^{9}Be spectrum includes 0, 912 and other unenumerated levels.
1990Br25: ^{58}Ni(^{13}C,^{12}B), E(^{13}C)=650 MeV, FWHM=250 keV, magnetic spectrometer, particle identification, θ(c.m.)≈0°−3.5°; DWBA analysis of $\sigma(\theta)$.
For discussion of ambiguities in spectroscopic factors from (^{16}O,^{15}N) reaction, see 1973Be12.

^{59}Cu Levels

E(level)	S_1S_2[†]	Comments
0.0	1.28	Excited in all the above reactions; $p_{3/2}$ transfer consistent with $\sigma(\theta)$ in (^{13}C,^{12}B) (1988Vo08).
490		E(level): From (^{16}O,^{15}N) (1986OkZU).
910	2.86	E(level): From (^{16}O,^{15}N) (1986OkZU). Also excited in (^{13}C,^{12}B), (^{10}B,^{9}Be). $f_{5/2}$ transfer consistent with $\sigma(\theta)$ in (^{13}C,^{12}B).
1400		E(level): From (^{16}O,^{15}N) (1986OkZU).
1870		E(level): From (^{16}O,^{15}N) (1986OkZU).
2300	0.22	E(level): From (^{13}C,^{12}B) (1990Br25); $p_{3/2}$ transfer consistent with $\sigma(\theta)$.
2590		E(level): From (^{16}O,^{15}N) (1986OkZU).
3030	2.53	E(level): From 1988Vo08. Other: 3060 (1986OkZU). $g_{9/2}$ transfer ($T_<$ state) consistent with $\sigma(\theta)$ in (^{13}C,^{12}B).
3580	1.1	E(level): From (^{13}C,^{12}B) (1990Br25); $d_{5/2}$ transfer consistent with $\sigma(\theta)$.
4300	1.1	E(level): From (^{13}C,^{12}B) (1990Br25); $f_{5/2}$ transfer consistent with $\sigma(\theta)$.
6120		E(level): From (^{13}C,^{12}B) (1990Br25); $f_{5/2}$ transfer consistent with $\sigma(\theta)$.
6900	1.0	E(level): From 1988Vo08 (^{13}C,^{12}B); $g_{9/2}$ transfer ($T_>$ state) consistent with $\sigma(\theta)$.
8900		E(level): From 1988Vo08 (^{13}C,^{12}B); $d_{5/2}$ transfer consistent with $\sigma(\theta)$.
15900		E(level): From 1988Vo08 (^{13}C,^{12}B); $h_{11/2}$ transfer consistent with $\sigma(\theta)$.

[†] Spectroscopic factor products S_1S_2, where S_1 refers to ^{12}C=^{11}B+p and S_2 refers to ^{58}Ni+p=^{59}Cu; from 1990Br25. Based on authors′ DWBA analysis of $\sigma(\theta)$ for (^{13}C,^{12}B) reaction. See 1988Vo08 and 1990Br25 for additional values.