^{9}Be(^{46}Cl,^{46}Sγ)   **2009Ga09**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	12-Jan-2010

Two-step reaction: ^{9}Be(^{48}Ca,^{46}Cl) followed by ^{9}Be(^{46}Cl,^{46}Sγ); involves neutron pickup and nucleon exchange reactions.

Experiments performed at coupled-cyclotron facility at NSCL. Primary beam=^{48}Ca at 140 MeV/nucleon bombarding a ^{9}Be target. A1900 fragment separator used to isolate fragments. Secondary beam=^{46}Cl at 87.0 MeV/nucleon hitting another ^{9}Be target surrounded by γ-detection system SeGa array of 32-fold segmented Ge detectors. Measured γ-ray and ^{46}S spectra, (particle)γ coin. The particles were analyzed event-by-event with the focal-plane detection system of S800 spectrograph; while the energy loss and time-of-flight information was used to identify the reaction residues from the secondary target. Comparisons with shell-model calculations.

Inclusive measured cross section=0.057 mb *6* for ^{9}Be(^{46}Cl,^{46}Sγ) reaction.

^{46}S Levels

E(level)	J^π	Comments
0	0^+	
952 *8*	(2^+)	J^π: comparison with shell-model calculations, systematics of even-even nuclei. Population=63% *12* from efficiency-corrected peak areas.

$\gamma(^{46}$S)

E_γ	E_i(level)	J_i^π	E_f	J_f^π
952 *8*	952	(2^+)	0	0^+

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Level Scheme

$^{46}_{16}$S$_{30}$