C(^{36}S,Xγ) 2008St18,2004St10

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Kelley, C. G. Sheu	ENSDF	01-May-2017

2004St10,2004ST29,2008ST18: Two-step fragmentation reaction. The authors populated ^{18}C using a cocktail beam of neutron-rich nuclides [^{25}Ne, ^{26}Ne, ^{27}Na, ^{28}Na, ^{29}Mg, and ^{30}Mg] that were produced by fragmenting an initial 77.5 MeV/nucleon ^{36}S beam at the GANIL/SISSI beamline. The cocktail beam was selected using the α spectrometer and focused on a carbon target that was coupled to a plastic scintillator.

Eγ, $\gamma\gamma$, γ(fragment) coincidences were measured using 74 BaF_2 detectors that surrounded the target with 4π and the SPEG spectrometer. The ^{18}C were identified using time-of-flight, energy loss and focal-plane position information. The γ-ray transitions are observed. Results are compared with shell-model calculations for analysis of J^π values.

All data are from 2008St18.

^{18}C Levels

E(level)	J^π	Comments
0	0^+	
1585 *10*	2^+	J^π: from systematics of e-e nuclei and shell-model predictions.
2504 *14*		
4000 *32*		

γ(^{18}C)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π
919 *10*	33 *8*	2504		1585	2^+
1585 *10*	100 *5*	1585	2^+	0	0^+
2415 *30*	40 *9*	4000		1585	2^+

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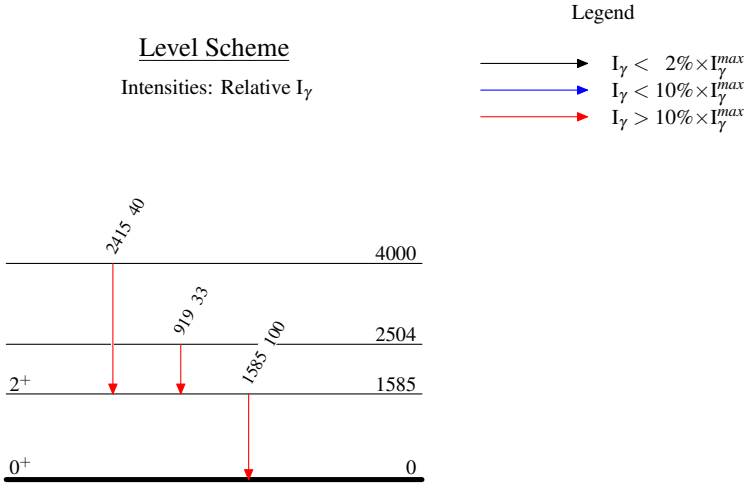
Level Scheme

Intensities: Relative I_γ



$^{18}_{6}C_{12}$