

C(${}^{36}\text{S},\text{X}\gamma$) **2008St18,2004St10**

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

2004St10,2004ST29,2008ST18:

XUNDL sets compiled by S. Geraedts and B. Singh (McMaster) 2007-2008.

Two-step fragmentation reaction. The authors populated ${}^{17}\text{C}$ using a cocktail beam of neutron-rich nuclides [${}^{25}\text{Ne}$, ${}^{26}\text{Ne}$, ${}^{27}\text{Na}$, ${}^{28}\text{Na}$, ${}^{29}\text{Mg}$, and ${}^{30}\text{Mg}$] that were produced by fragmenting an initial 77.5 MeV/nucleon ${}^{36}\text{S}$ 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. $E\gamma$, $\gamma\gamma$, $\gamma(\text{fragment})$ coincidences were measured using 74 BaF₂ detectors that surrounded the target with 4π and the SPEG spectrometer. The ${}^{17}\text{C}$ 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).

 ${}^{17}\text{C}$ Levels

<u>E(level)</u>	<u>J^π</u>
0	$3/2^+$
207 15	$(1/2^+)$
329 5	$(5/2^+)$

† From literature, and consistent with shell-model predictions shown in figure 4 of (2008St18).

 $\gamma({}^{17}\text{C})$

<u>E_γ</u>	<u>I_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
207 15	36 9	207	$(1/2^+)$	0	$3/2^+$
329 5	100 10	329	$(5/2^+)$	0	$3/2^+$

$\text{C}(^{36}\text{S},\text{X}\gamma)$ 2008St18,2004St10Level SchemeIntensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

