$^{12}C(^{25}Ne,^{19}C\gamma)$ 2004St10,2008St18

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, G. C. Sheu	ENSDF	23-March-2017

2004St10,2004St29,2008St18: The authors populated ^{19}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 ^{19}C were identified using time-of-flight, energy loss and focal-plane position information. A single γ-ray transition is observed. Results are compared with shell-model calculations for analysis of J^π values.

All data are from 2008St18.

^{19}C Levels

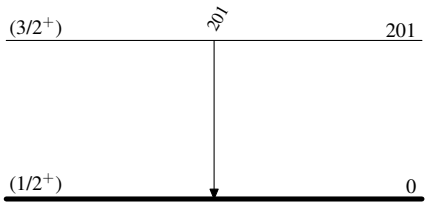
E(level)	J^π	Comments
0	$(1/2^+)$	J^π: from Adopted Levels of ^{19}C in ENSDF database.
201 *15*	$(3/2^+)$	J^π: $3/2^+$ or $5/2^+$ from shell-model predictions; the latter would require 201γ to be E2 and corresponding half-life≈1 μs for 201 level.

$\gamma(^{19}C)$

Eγ	E$_i$(level)	J_i^π	E$_f$	J_f^π
201 *15*	201	$(3/2^+)$	0	$(1/2^+)$

$^{12}C(^{25}Ne,^{19}C\gamma)$ 2004St10,2008St18

Level Scheme



$^{19}_{6}C_{13}$