^{197}Au(^{33}Mg,^{33}Mg′γ) 2002Pr09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 112, 1393 (2011)	31-Mar-2011

Change made on Aug 22, 2017: previous incorrect J^π=(3/2$^+$) corrected to (5/2$^+$).
Beam=^{33}Mg, target=^{197}Au.
2002Pr09: ^{33}Mg particles produced by fragmentation of ^{48}Ca beam at 80 MeV/nucleon hitting a ^{9}Be target. The fragments were separated by A1200 fragment separator. The secondary beam of ^{33}Mg at 61.8 MeV/nucleon hit a gold target; Time-of-flight method. The γ rays measured with an array of NaI(Tl) detectors surrounding the target.

^{33}Mg Levels

E(level)	J$^\pi$	Comments
0	(5/2$^+$)	J$^\pi$: 3/2$^-$ in Adopted Levels.
485 *1*	(7/2$^+$)	E(level): This level proposed as member of 5/2$^+$ g.s. band based on analysis of E2 and E1 transition probabilities deduced from measured cross section and coupled-channel calculations. 2002Pr09 deduced charge and mass deformation parameters as β_c=0.52 *12* and β_A=0.58 *13*; and concluded that the 485 transition is probably E2. J$^\pi$: (5/2$^+$) in Adopted Levels.

γ(^{33}Mg)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
485 *1*	485	(7/2$^+$)	0	(5/2$^+$)	σ=81 mb *25* for 0-2.8°.

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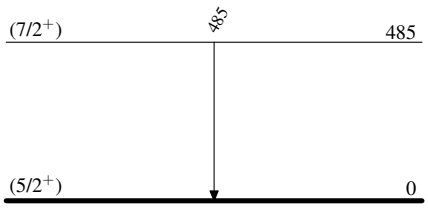
Level Scheme



$^{33}_{12}Mg_{21}$