

$^3\text{H}(^{30}\text{Mg},\text{p}\gamma)$  2010Wi11

Type	Author	History Citation	Literature Cutoff Date
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**2010Wi11:** E=1.8 MeV/nucleon  $^{30}\text{Mg}$  secondary beam was produced by 1.4 GeV proton primary beam from the CERN PS Booster impinging on an UC<sub>x</sub>/graphite production target, and separated with the ISOLDE general-purpose separator at the REX-ISOLDE-CERN facility. The reaction target was  $^3\text{H}+\text{Ti}$  with 500  $\mu\text{g}/\text{cm}^2$  Ti foil and 40  $\mu\text{g}/\text{cm}^2$   $^3\text{H}$ .  $\gamma$  rays were detected with the MINIBALL array and protons were detected with the T-REX consisting of position-sensitive  $\Delta\text{E-E}$  telescopes. Measured  $\sigma(\text{E}_\text{p},\theta)$ ,  $\text{E}\gamma$ ,  $\text{I}\gamma$ ,  $\text{p}\gamma$ -coin. Deduced levels, J,  $\pi$ , L-transfers from DWBA analysis. Comparisons with Monte-Carlo Shell-Model (MCSM) calculations.

 $^{32}\text{Mg}$  Levels

$\text{E}(\text{level})^\dagger$	$\text{J}^\pi$	$\text{T}_{1/2}$	$\text{L}^\ddagger$	Comments
0	$0^+$		0	
886	$2^+$			No evidence of the direct population of this state in $^3\text{H}(^{30}\text{Mg},\text{p})$ .
1058 2	$0^+$	>7 ns	0	$\text{T}_{1/2}$ : estimated from GEANT4 simulations. E(level): uncertainty given in 2010Wi11 based on $\text{E}\gamma$ data. Other: 1083 33 from proton spectrum.

$^\dagger$  From  $\text{E}\gamma$  data.

$^\ddagger$  From DWBA analysis of measured  $\sigma(\theta)$  (2010Wi11).

 $\gamma(^{32}\text{Mg})$ 

$\text{E}_\gamma^\dagger$	$\text{I}_\gamma^\dagger$	$\text{E}_i(\text{level})$	$\text{J}_i^\pi$	$\text{E}_f$	$\text{J}_f^\pi$	Mult.
172	6 3	1058	$0^+$	886	$2^+$	
886	4 2	886	$2^+$	0	$0^+$	
(1058)		1058	$0^+$	0	$0^+$	[E0]

$^\dagger$  From 2010Wi11.



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Level Scheme  
Intensities: Relative  $I_\gamma$

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- $\gamma$  Decay (Uncertain)

