

${}^9\text{Be}({}^{36}\text{Si}, {}^{33}\text{Mg}\gamma)$  2001Yo03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 199,1 (2025)	30-Sep-2024

2001Yo03 (also 2002Mo35): E=38 MeV/nucleon  ${}^{36}\text{Si}$  beam was produced from fragmentation of a 95 MeV/nucleon primary  ${}^{40}\text{Ar}$  beam from the RIKEN accelerator on a  $462.5 \text{ mg/cm}^2$   ${}^9\text{Be}$  production target. Fragments were separated by the RIKEN projectile-fragment separator RIPS. The secondary target was  $385 \text{ mg/cm}^2$   ${}^9\text{Be}$ .  $\gamma$  rays were detected using an array of 66 NaI(Tl) detectors and reaction products were detected and identified with a PPAC and four sets of  $\Delta E$ -E counter telescopes each consisting of three layers of ion-implanted silicon detectors followed by a Si(Li) detector. Measured  $E_\gamma$ ,  $I_\gamma$ , (particle) $\gamma$ -coin.

Three  $\gamma$  rays are observed at 490, 900 and 1250 keV. The 490 and 1250  $\gamma$  rays are close in energy to  $484.1\gamma$  and  $1242.8\gamma$  seen in  ${}^{33}\text{Na}$  decay. The 900 $\gamma$  is not seen in  ${}^{33}\text{Na}$  decay.

 ${}^{33}\text{Mg}$  LevelsE(level)<sup>†</sup>

0  
490  
1250

<sup>†</sup> From  $E_\gamma$  data, based on level scheme in the Adopted Levels.

 $\gamma({}^{33}\text{Mg})$ 

<u><math>E_\gamma</math><sup>†</sup></u>	<u><math>E_i(\text{level})</math></u>	<u><math>E_f</math></u>
490	490	0
<sup>x</sup> 900		
1250	1250	0

<sup>†</sup> From 2001Yo03. Those transitions are not placed in 2001Yo03 and the placements here are from the Adopted Gammas.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

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Level Scheme

