

$^{160}\text{Gd}(p,n\gamma)$  1978Sc10

<u>Type</u>	<u>Author</u>	<u>History Citation</u>	<u>Literature Cutoff Date</u>
Full Evaluation	N. Nica	NDS 176, 1 (2021)	1-May-2021

Measured delayed  $\gamma\gamma$  coincidences to determine  $T_{1/2}$  for states populated in (p,n) and (n, $\gamma$ ) reactions; plastic or NaI(Tl) scintillators in conjunction with planar Ge(Li) detectors. For the (p,n) reaction, enriched (98.4%  $^{160}\text{Gd}$ ) Gd metal foils were used;  $E(p)=8$  MeV. For the (n, $\gamma$ ) reaction,  $^{159}\text{Tb}_4\text{O}_7$  samples were irradiated with thermal neutrons.

Others: [1968Ro06](#) report isomeric levels at 145 keV 8 ( $T_{1/2}=57$  ns 6) and 105 keV ( $T_{1/2}=5.5$  ns 10) in the (n, $\gamma$ ) reaction. [1974Iv02](#) report, also in (n, $\gamma$ ), a 70-keV  $\gamma$  with  $T_{1/2}=52$  ns. However, these energies and placements do not agree with the results of [1974Ke01](#).

 $^{160}\text{Tb}$  Levels

<u>E(level)</u>	<u><math>J^\pi</math></u>	<u><math>T_{1/2}</math></u>	<u>Comments</u>
0.0	$3^-$	72.3 d 2	$T_{1/2}$ : adopted value.
63.7	$1^-$	60 ns 5	
64.1	$4^+$	$\leq 2$ ns	
138.7	$1^+$	5.7 ns 5	