^{158}Gd IT decay 1962Re04,1965Gr04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 141, 1 (2017)	1-Feb-2017

Parent: ^{158}Gd: E=260+x; $T_{1/2}$=0.475 ms *10*; %IT decay=?

Three papers have reported isomeric decays that are, or may be, in ^{158}Gd. This isomer is not included in the ^{158}Gd Adopted Levels.

1962Re04: From ^{160}Gd(p,p2nγ) at ≈ 21 MeV, observed γ's of 80 and 180 keV with $T_{1/2}$=0.46 ms *2* which they assign to ^{158}Gd. This suggests an isomer above the 4^+ level at 260 keV. They also report a γ of ≈ 220 keV with $T_{1/2}$ ≈ 2 ms.

1965Gr04: From ^{160}Gd(p,p2nγ) at > 17 MeV, report γ of 170 keV with $T_{1/2}$=0.480 ms *10*. They did not observe the 2 ms lifetime reported by 1962Re04.

1966Iv01: From the Gd(α,x) at 24 MeV, report γ's of 48 (K x?), 82, 116, and 180 keV with $T_{1/2}$=0.125 ms, but give no nuclide assignment. If the 82 and 180 keV γ's depopulate the 2^+ and 4^+ levels in ^{158}Gd, these data could suggest another isomer above the 4^+ level at 260 keV.