## $^{58}$Mn IT decay (65.4 s) 1993ScZS

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | Caroline D. Nesaraja, Scott D. Geraedts and Balraj Singh | NDS 111, 897 (2010) | 12-Jan-2010 |

Parent: $^{58}$Mn: E=71.78 *5*; $J^{\pi}=4^+$; $T_{1/2}$=65.4 s *5*; %IT decay<33.0

$^{58}$Mn-%IT decay: %IT<33 from RUL, B(M3)(W.u.)<10.

E=11.6 MeV/nucleon, source produced by W($^{86}$Kr,X) reaction followed by mass separation. Measured E$\gamma$, I$\gamma$, $\gamma\gamma$, $\beta\gamma$ coin, ce, isotopic $T_{1/2}$.

### $^{58}$Mn Levels

| E(level) | $J^{\pi}$ † | $T_{1/2}$ | Comments |
|---|---|---|---|
| 0.0 | $1^+$ | | |
| 71.78 *5* | $4^+$ | 65.4 s *5* | $J^{\pi}$: $0^+$ for g.s. and $3^+$ for isomeric state were proposed by 1993ScZS.<br>$T_{1/2}$: weighted average of 66 s *6* (1961Ch04), 65 s *1* (1969Wa10), 65.3 s *7* (1971Dy01), 65.1 s *11* (1978Wy02) and 69 s *2* (1993ScZS). |

† From 'Adopted Levels'.

### $\gamma$($^{58}$Mn)

| E$\gamma$ | E$_i$(level) | $J_i^{\pi}$ | E$_f$ | $J_f^{\pi}$ | Mult. | $\alpha$ † | Comments |
|---|---|---|---|---|---|---|---|
| 71.78 *5* | 71.78 | $4^+$ | 0.0 | $1^+$ | M3 | 14.07 | $\alpha$(K)=12.09 *18*; $\alpha$(L)=1.734 *25*; $\alpha$(M)=0.236 *4*; $\alpha$(N+..)=0.00891 *13*<br>$\alpha$(N)=0.00891 *13*<br>$\alpha$(K)exp=11.4 *12*; $\alpha$(L+...)exp=3.3 *4*<br>Mult.: from $\alpha$(K)exp. |

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on $\gamma$-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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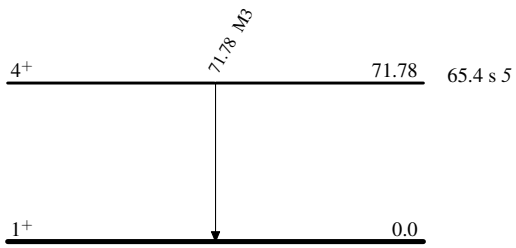
Decay Scheme

%IT<33.0




$^{58}_{25}Mn_{33}$