

$^{78}\text{Y}$   $\varepsilon$  decay (53 ms) [2001Ga24](#),[2002Fa13](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Ameenah R. Farhan, Balraj Singh		NDS 110, 1917 (2009)	30-Jun-2009

Parent:  $^{78}\text{Y}$ :  $E=0$ ;  $J^\pi=(0^+)$ ;  $T_{1/2}=53$  ms 8;  $Q(\varepsilon)=10650$  SY;  $\% \varepsilon + \% \beta^+$  decay=100.0

$^{78}\text{Y}$ - $Q(\varepsilon)$ : 10650 400 (syst,[2009AuZZ](#),[2003Au03](#)). [2001Ga24](#) estimate 10500 400 from half-life and decay mode. [2007WeZX](#) estimate 10940 200 from  $^{78}\text{Y}$  half-life and  $ft$  value from systematics of  $0^+$  to  $0^+$  superallowed  $\beta$  transitions.

$^{78}\text{Y}$ - $T_{1/2}$ : From timing of  $\beta$  radiation. Weighted average of 50 ms 8 ([2001Ga24](#)) and 55 ms +9-6 ([2001Ki13](#),[2002Fa13](#),[2007WeZX](#)).

Other: 47 ms 5 ([2007Na13](#)) from timing of  $281\gamma$  correlated with positrons from  $^{78}\text{Y}$  decay. The  $281\gamma$  is possibly from a level of this energy in  $^{78}\text{Y}$ . Since assignment of  $281\gamma$  is not yet certain, the half-life from [2007Na13](#) is not used in the averaging procedure.

$^{78}\text{Y}$ - $\% \varepsilon + \% \beta^+$  decay:  $\% \varepsilon + \% \beta^+$  expected As 100% if 53-ms activity corresponds to g.s..

[2001Ga24](#) (also [1998Lo17](#),[1999Lo07](#)):  $^{92}\text{Mo}^{+37}$ , 60 MeV/A on Ni target, fragments separated by LISE3 separator. Measured  $\beta^+(t)$ , Si strip detectors.

[2001Ki13](#), [2002Fa13](#), [2007WeZX](#):  $^{112}\text{Sn}$  ions, 1 GeV/A, on Be target, fragments isotopically separated. Si stack detectors.

[1998Uu01](#):  $^{40}\text{Ca}(^{40}\text{Ca},pn)$ ,  $E=125$  MeV. Measured  $\beta^+$ ,  $\gamma$ ,  $\beta^+\gamma(t)$ ,  $T_{1/2}$ .

[1992Ye04](#):  $^{58}\text{Ni}(^{92}\text{Mo},X)$ ,  $E=70$  MeV/nucleon; measured fragment mass, charge. A1200 beam analysis device.

 $^{78}\text{Sr}$  Levels

E(level)	$J^\pi$
0.0	$0^+$

 $\varepsilon, \beta^+$  radiations

E(decay)	E(level)	Log $ft$	$I(\varepsilon + \beta^+)^{\dagger}$	Comments
(10650 SY)	0.0	3.49 7	100	$I(\varepsilon + \beta^+)$ : assumed for $\log ft=3.49 7$ for superallowed $\beta$ transition.

$\dagger$  Absolute intensity per 100 decays.