

$^{77}\text{Se}(\gamma,\gamma')$  1969Bo29

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

1969Bo29:  $E(\gamma) < 2$  MeV; yield of 17.45 s  $^{77}\text{Se}$  measured as a function of  $E\gamma$ . Discontinuities in the yield curve occur at energies corresponding to levels in  $^{77}\text{Se}$ . Deduced partial widths and lifetimes.

1995Kh02, 1995La26, 1995La25: measured excitation  $\sigma$  in  $(\gamma,\gamma')$  and deduced half-life of the 520 level differing by a factor of  $\approx 23$  from that in 1969B029.

1993Ma06: measured isomer excitation  $\sigma$  at  $E\gamma = 4-15$  MeV.

1993Ca24, 1991Ca03, 1989An07: measured isomer excitation yields for  $E\gamma = 0.5-11$  MeV bremsstrahlung beam.

 $^{77}\text{Se}$  Levels

$S = \Gamma_{\gamma}(I) = \text{partial } \Gamma \text{ for } \Delta E \text{ excitation to the 160 isomer.}$

E(level)	$J^{\pi\dagger}$	$T_{1/2}^{\ddagger}$	Comments
0	$1/2^-$		
250 10	$5/2^-$	23 ns 11	S: $1.3 \times 10^{-8} +10-4$ .
440 10	$5/2^-$	65 ps +18-23	S: $9.1 \times 10^{-8} +50-20$ .
520 10	$3/2^-$	4 ps 2	$T_{1/2}$ : from 1995Kh02. Other: 90 ps +3-4 (1969Bo29). 1995Kh02 pointed out an error in the integrated $\sigma$ given by 1969Bo29, and $T_{1/2}$ should be 9 ps instead of 90 ps. The value of $(2J+1)\Gamma\gamma_0\Gamma\gamma/2\Gamma$ : $4.1 \times 10^{-8} +35-10$ quoted by 1969Bo29 is probably low by an order of magnitude.
825 10		0.52 ps +17-24	S: $8.0 \times 10^{-7} +70-20$ .
932 10			S: $7.8 \times 10^{-6} +65-20$ .
1000 10		3.2 ps +14-16	S: $8.4 \times 10^{-6} +80-25$ .
1190 10			S: $6.7 \times 10^{-5} +45-15$ .
1600 10	$3/2^+, 5/2^+$		S: $3.5 \times 10^{-5} +25-5$ .

$\dagger$  Assignments for the first four levels are from the Adopted Levels.

$\ddagger$  From reduced width (1969Bo29) and adopted  $\gamma$  branching. See Adopted Levels for lifetimes known more precisely from other methods.