

**Coulomb excitation** [2011Ju01,2008Do19,1961An07](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113, 515 (2012)	1-Jan-2012

[1963Ha20](#)  $E(\alpha)=14\text{-}20$  MeV.

[1961An07](#)  $E(^{14}\text{N})=12\text{-}25$  MeV.

[1961An07](#)  $E(^{20}\text{Ne})=16\text{-}26$  MeV.

[1981Ba05](#)  $E(^{16}\text{O})=48$  MeV.

[2008Do19](#) Inverse kinematics, beam= $^{114}\text{Sn}$ , target= $^{58}\text{Ni}$ .

Enriched  $^{58}\text{Ni}$  target.  $E=3.4$  MeV/nucleon  $^{114}\text{Sn}$  beam provided by UNILAC accelerator at GSI. Detected charged particles using parallel plate avalanche counter. Detected  $\gamma$ -rays using two HPGe Supercluster detectors.  $B(E2)$  value of the  $2^+$  state was determined relative to  $B(E2)$  value of first  $2^+$  state for  $^{116}\text{Sn}$ .

[2011Ju01](#):  $E(^{114}\text{Sn})=4$  MeV/nucleon.

(high-energy Coulomb Excitation) at GSI. Lifetimes measured using the Doppler shift attenuation method (line-shape analysis).  $\gamma$  rays measured by means of four EUROBALL cluster HPGe detectors in coincidence with C ions that were ejected from the target. Measured:  $\gamma$ , scin ([1963Ha20](#)), ([1961An07](#));  $\gamma\gamma$  semi ([1981Ba05](#)).

 $^{114}\text{Sn}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	$T_{1/2}$ <sup>‡</sup>	Comments
0.0	$0^+$		
1299.9 1	$2^+$	0.42 ps 3	$B(E2)\uparrow=0.232$ 8 ( <a href="#">2008Do19,2011Ku05</a> ) $T_{1/2}$ : From <a href="#">2011Ju01</a> . Other: 0.390 PS from $B(E2)$ ( <a href="#">2008Do19</a> ). Other $B(E2)=0.20$ 7 ( <a href="#">1957Al43</a> ) 0.25 5 ( <a href="#">1961An07</a> ).
1953.3 1	$0^+$	6.5 ps 23	$T_{1/2}$ : from $B(E2)(0^+ \text{ to } 2^+)=0.07$ 3 ( <a href="#">1981Ba05</a> ).
2156.3 1	$0^+$	>7.6 ps	$T_{1/2}$ : from $B(E2)(0^+ \text{ to } 2^+)<0.016$ ( <a href="#">1981Ba05</a> ).
2275.0 1	$3^-$	0.360 ps 21	$T_{1/2}$ : deduced from the lineshape of the $3^-$ to $2^+$ E1 transition, and hence it should be considered as an upper limit. Note that this value disagrees with that of 1.7 ps +10 <sup>-7</sup> , quoted in the Adopted Levels from the unpublished work of <a href="#">1991ViZX</a> .

<sup>†</sup> From Adopted Levels.

<sup>‡</sup> From line-shape analysis in [2011Ju01](#). The quoted uncertainties include additional systematic errors in the stopping powers (5%) and the feeding intensity pattern.

 $\gamma(^{114}\text{Sn})$ 

$E_\gamma$ <sup>†</sup>	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>
653.36 2		1953.3	$0^+$	1299.9	$2^+$	
856.37		2156.3	$0^+$	1299.9	$2^+$	
975.076 8	100	2275.0	$3^-$	1299.9	$2^+$	E1
1299.900 7		1299.9	$2^+$	0.0	$0^+$	

<sup>†</sup> From Adopted Gammas.

---

**Coulomb excitation 2011Ju01,2008Do19,1961An07**Level Scheme

Intensities: Type not specified

