

Coulomb excitation 1981Le02,2009Ea02

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

2009Ea02: C(^{58}Fe , $^{58}\text{Fe}'$) E=110 MeV/nucleon. Measured g factor of first 2⁺ state relative to that of first 2⁺ state In ^{56}Fe using transient- field technique In Coulomb excitation In inverse kinematics.

1981Le02: E(^{12}C)=22 MeV, E(^{32}Cr)=110-120 MeV.

1974ToZJ, thesis): E(^{40}Ca)=76 MeV.

1960An07: E(^{14}N)=16.3 MeV.

1959A195: E(α)=15-35 MeV.

Measured: γ , $\sigma(\theta)$.

 ^{58}Fe Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0 ⁺		
811 <i>l</i>	2 ⁺	6.54 ps <i>l9</i>	<p>g=+0.468 56 (2009Ea02) Q=-27.3 50 (1981Le02) B(E2)\uparrow=0.1234 36 (1981Le02)</p> <p>g: from measured ratio=0.920 55 (2009Ea02) of g factor of 811, 2⁺ state in ^{58}Fe to that of 847, 2⁺ state in ^{56}Fe, and measured g factor=+0.509 53 (2009Ea01) for the 847, 2⁺ state in ^{56}Fe. Using earlier measured (1977Br23) ratio of 0.75 24, 2009Ea02 recommend averaged ratio of 0.912 54 and g factor of +0.464 56. Further, 2009Ea02 recommend averaged g factor=+0.473 51 by considering earlier measured (1969Si13, IPAC method) g factor=+0.514 118.</p> <p>Q: from reorientation effect (1981Le02). Other: +29 (1974ToZJ), sign is probably wrong.</p> <p>B(E2)\uparrow: Others: 0.20 5 (1959A195), 0.11 2 (1960An07), 0.086 5 (1974ToZJ).</p> <p>J^π: From 'Adopted Levels'.</p> <p>$T_{1/2}$: deduced from B(E2)=0.1234 36.</p>

 $\gamma(^{58}\text{Fe})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.
811 <i>l</i>	811	2 ⁺	0.0	0 ⁺	E2

Coulomb excitation 1981Le02,2009Ea02Level Scheme