

Guidance needed for handling widely
different $T_{1/2}$ values for first $2+$ states in
some nuclides

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Lifetime of 1454, first 2⁺ state in ⁵⁸Ni

Method	Reference	BE2(up)	mean lifetime (ps)
Evaluation (not including 2004Yu10, 2001Ke08)	2001RA27	0.0695(20)	0.904(26): BE2W=10.42(30)
Coulomb Excitation: BE2 measurement 2004Yu10: BE2(up)=0.0707(145), tau=0.83(17) ps	1959AL95	0.100(25)	0.67(17)
	1960AN07	0.080(16)	0.82(16)
	1960GO08	0.063(13)	1.04(22)
	1962ST02	0.072(9)	0.88(9)
	1970LE17	0.0731(17)	0.860(20)
	1971CHZT	0.0680(20)	0.924(28)
	1973CH13	0.0660(40)	0.95(6)
Coul. Ex. DSAM measurement: ⁵⁸ Ni ions on ¹² C	2001KE08		1.27(2) : BE2W=7.41(12)
(γ,γ')	1964BO22	0.113(30)	0.62(20)
	1970ME18	0.064(6)	0.98(9)
	1972ADZD	0.0587(42)	1.07(8)
	1981CA10	0.071(9)	0.90(11)
(p,p'γ): DSAM	1969BE48		0.94(12)
	1973BEYD		0.92(17)
(e,e')	1961CR01	0.098(13)	0.65(9)
	1967DU07	0.0657(11)	0.956(16)
	1969AF01	0.0554(30)	1.14(6)
	1983KL09	0.0588(40)	1.07(9)

Lifetime of 1257, first 2⁺ state in ¹¹²Sn

Coul. Ex.: ¹¹²Sn beam, ¹⁹⁷Au target

2007Va22 (PRL 99, 162501):

BE2(up)=0.240(32), **mean-life=0.55(7) ps**

(n,n'γ): DSAM

2007Or04 (PR-C 76, 021302-R):

mean-life=0.75(+13-9) ps

Older lifetime data for first 2^+ state in ^{112}Sn

- 1975Gr30: $BE_2=0.229(5)$, mean-life= $0.568(13)$ ps
1970Br07: mean-life= $0.71(16)$ ps : from β_2 in (α, α') inelas.
1970St20: $BE_2=0.256(5)$, mean-life= $0.508(12)$ ps
1961An07: $BE_2=0.33(6)$, mean-life= $0.41(7)$ ps
1957Al43: $BE_2=0.180(40)$, mean-life= $0.76(17)$ ps