Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. A. Sonzogni	NDS 93,599 (2001)	1-Dec-2000

Q(β^-)=2997.4 *24*; S(n)=5754 *3*; S(p)=6433 *4*; Q(α)=1143 *4* 2012Wa38
Note: Current evaluation has used the following Q record 2997.5 24 *5753.4 28* 6433 3 *1141* 3 1995Au04.

^{144}Pr Levels

Cross Reference (XREF) Flags

A ^{144}Ce β^- decay
B ^{144}Pr IT decay (7.2 min)

E(level)†	J^π	$T_{1/2}$	XREF	Comments
0.0	0^-	17.28 min *5*	AB	%β^-=100 $T_{1/2}$: from 1975He03; others: 17.27 min *4* (1957Pe09), 17.30 min *5* (1963Ho15), 17.3 min *1* (1968Ra01,1970Fa03). J^π: first-forbidden unique β^- branch to 2^+ level in ^{144}Nd; $J^\pi=0^-$ from $\beta\gamma(\theta)$, $\gamma\gamma(\theta)$, $\beta\gamma$(circular polarization).
59.03 *3*	3^-	7.2 min *3*	AB	%IT=99.93; %β^-=0.07 J^π: 59γ to 0^- g.s. is M3. $T_{1/2}$: from Pr Kα x ray(t) (1970Fa03) in IT decay. Other: 6.6 min *10* K x ray(t) in (1976Ch33).
80.120 *4*	1^-	136 ps *9*	A	μ=−1.2 *4* (1989Ra17) J^π: 80γ to 0^- g.s. is M1. $T_{1/2}$: weighted average: 125 ps *14* (1962Bu09,1962Bu22), 143 ps *11* (1964Mc22). μ: from $\gamma\gamma(\theta$,H) (1975Ba32). Other: −4.3 *14* (1973Si01).
99.952 *9*	2^-	0.66 ns *6*	A	J^π: 99γ to 0^- g.s. is E2. $T_{1/2}$: from 1964Be36; other: 0.69 ns *14* (1962Bu09,1962Bu22).
133.5152 *20*	1^-	7 ps *4*	A	J^π: 133γ to 0^- g.s. is M1. $T_{1/2}$: from 1962Bu09, 1962Bu22.

† From least-squares fit to Eγ.

$\gamma(^{144}Pr)$

All data from ^{144}Ce β^- decay.

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ	α†	Comments
59.03	3^-	59.03 *3*	100	0.0	0^-	M3		1258	B(M3)(W.u.)=6.5×10^{-2} *4*
80.120	1^-	80.120 *5*	100	0.0	0^-	M1		2.488	B(M1)(W.u.)=0.090 *7*
99.952	2^-	40.98 *10*	100 *6*	59.03	3^-	M1+E2	0.042 *18*	2.79 *11*	B(M1)(W.u.)=0.12 *12*; B(E2)(W.u.)=70 *+70−50*
		99.961 *15*	12.3 *14*	0.0	0^-	E2		2.144	B(E2)(W.u.)=56 *10*
133.5152	1^-	33.568 *10*	2.60 *20*	99.952	2^-	M1		4.79	B(M1)(W.u.)=1.2 *7*
		53.395 *5*	0.86 *5*	80.120	1^-	M1		8.09	B(M1)(W.u.)=0.10 *6*
		133.515 *2*	100 *4*	0.0	0^-	M1		0.579	B(M1)(W.u.)=0.7 *5*

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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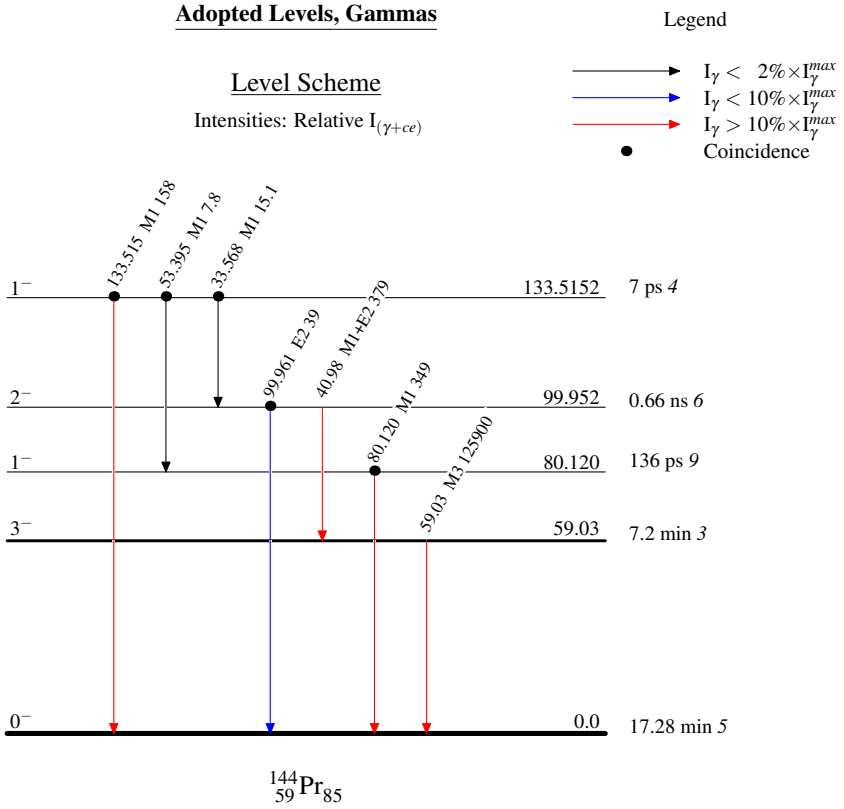
Level Scheme

Intensities: Relative $I_{(\gamma+ce)}$



$^{144}_{59}Pr_{85}$