

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, Huo Junde		NDS 87,15 (1999)	1-Nov-1998

$Q(\beta^-) = -3.68 \times 10^3$ 3; $S(n) = 8.19 \times 10^3$ 4; $S(p) = 2.23 \times 10^3$ 4; $Q(\alpha) = 4.04 \times 10^3$ 4 [2012Wa38](#)

Note: Current evaluation has used the following Q record -3.7E3 SY8.0E3 SY2.4E3 SY4.1E3 syst [1995Au04](#).

[Additional information 1.](#)

All data from $^{159}\text{Tb}(^{20}\text{Ne}, 5n\gamma)$.

^{174}Re Levels

[Additional information 2.](#)

Cross Reference (XREF) Flags

A $^{159}\text{Tb}(^{20}\text{Ne}, 5n\gamma)$
B ^{174}Os ε decay

E(level)	J^π	$T_{1/2}$	XREF	Comments
0.0		2.40 min 4	AB	$\% \varepsilon + \% \beta^+ = 100$ $T_{1/2}$: from 1991Br01 .
x+0 ^b	(4 ⁻)		A	Additional information 3.
y+0 [@]			A	Additional information 4.
z+0 ^{&}			A	Additional information 5.
u+0 [‡]	(5 ⁺)		A	Additional information 6.
v+0 ^a			A	Additional information 7.
x+91.9 ^b 10	(5 ⁻)		A	
y+177.5 [@] 10			A	
u+196.9 [‡] 10	(7 ⁺)		A	
x+206.1 ^b 15	(6 ⁻)		A	
z+332.0 ^{&} 10			A	
x+343.6 [#] 18	(6 ⁺)	23 ns	A	
y+481.1 [@] 15			A	
x+502.9 [#] 20	(7 ⁺)		A	
u+513.2 [‡] 15	(9 ⁺)		A	
x+677.9 [#] 23	(8 ⁺)		A	
z+722.0 ^{&} 15			A	
v+723.0 ^a 10			A	
x+868.4 [#] 25	(9 ⁺)		A	
y+889.1 [@] 18			A	
u+934.8 [‡] 18	(11 ⁺)		A	
x+1079 [#] 3	(10 ⁺)		A	
z+1169.0 ^{&} 18			A	
x+1311 [#] 3	(11 ⁺)		A	
u+1444.8 [‡] 20	(13 ⁺)		A	
x+1556 [#] 3	(12 ⁺)		A	
v+1584.0 ^a 15			A	
z+1667.0 ^{&} 20			A	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued) ^{174}Re Levels (continued)

E(level)	J^π [†]	XREF	E(level)	J^π [†]	XREF	E(level)	J^π [†]	XREF
x+1817 [#] 4	(13 ⁺)	A	u+3296 [‡] 3	(19 ⁺)	A	u+5303 [‡] 4	(25 ⁺)	A
u+2030.2 [‡] 23	(15 ⁺)	A	u+3923 [‡] 3	(21 ⁺)	A	u+6042 [‡] 4	(27 ⁺)	A
u+2663.4 [‡] 25	(17 ⁺)	A	u+4600 [‡] 3	(23 ⁺)	A			

[†] J^π assignments are tentative, based on rotational structure, and on the energy systematics of decoupled bands in other odd-odd Re and Ir isotopes.

[‡] Band(A): Configuration=(π 1/2(541))+(ν 1/2(510)), from 1989McZT. 1988ChZQ report same levels up to 17⁺, but gave E(19⁺)-E(17⁺)=677.2.

[#] Band(B): rotational band 1, from 1988ChZQ.

@ Band(C): rotational band 2, from 1988ChZQ.

& Band(D): rotational band 3, from 1988ChZQ.

^a Band(E): rotational band 4, from 1988ChZQ.

^b Band(F): rotational band 5, from 1988ChZQ.

 $\gamma(^{174}\text{Re})$

$E_i(\text{level})$	J^π_i	E_γ [†]	E_f	J^π_f	$E_i(\text{level})$	J^π_i	E_γ [†]	E_f	J^π_f
x+91.9	(5 ⁻)	91.9	x+0	(4 ⁻)	x+1079	(10 ⁺)	211.0	x+868.4	(9 ⁺)
y+177.5		177.5	y+0		z+1169.0		447	z+722.0	
u+196.9	(7 ⁺)	196.9	u+0	(5 ⁺)	x+1311	(11 ⁺)	231.2	x+1079	(10 ⁺)
x+206.1	(6 ⁻)	114.2	x+91.9	(5 ⁻)	u+1444.8	(13 ⁺)	510 [#]	u+934.8	(11 ⁺)
z+332.0		332	z+0		x+1556	(12 ⁺)	245	x+1311	(11 ⁺)
x+343.6	(6 ⁺)	137.5	x+206.1	(6 ⁻)	v+1584.0		861	v+723.0	
y+481.1		303.6	y+177.5		z+1667.0		498	z+1169.0	
x+502.9	(7 ⁺)	159.3	x+343.6	(6 ⁺)	x+1817	(13 ⁺)	261	x+1556	(12 ⁺)
u+513.2	(9 ⁺)	316.3	u+196.9	(7 ⁺)	u+2030.2	(15 ⁺)	585.4	u+1444.8	(13 ⁺)
x+677.9	(8 ⁺)	175	x+502.9	(7 ⁺)	u+2663.4	(17 ⁺)	633.2	u+2030.2	(15 ⁺)
z+722.0		390	z+332.0		u+3296	(19 ⁺)	633 [‡]	u+2663.4	(17 ⁺)
v+723.0		723	v+0		u+3923	(21 ⁺)	627 [‡]	u+3296	(19 ⁺)
x+868.4	(9 ⁺)	190.5	x+677.9	(8 ⁺)	u+4600	(23 ⁺)	677 [‡]	u+3923	(21 ⁺)
y+889.1		408	y+481.1		u+5303	(25 ⁺)	703 [‡]	u+4600	(23 ⁺)
u+934.8	(11 ⁺)	421.6	u+513.2	(9 ⁺)	u+6042	(27 ⁺)	739 [‡]	u+5303	(25 ⁺)

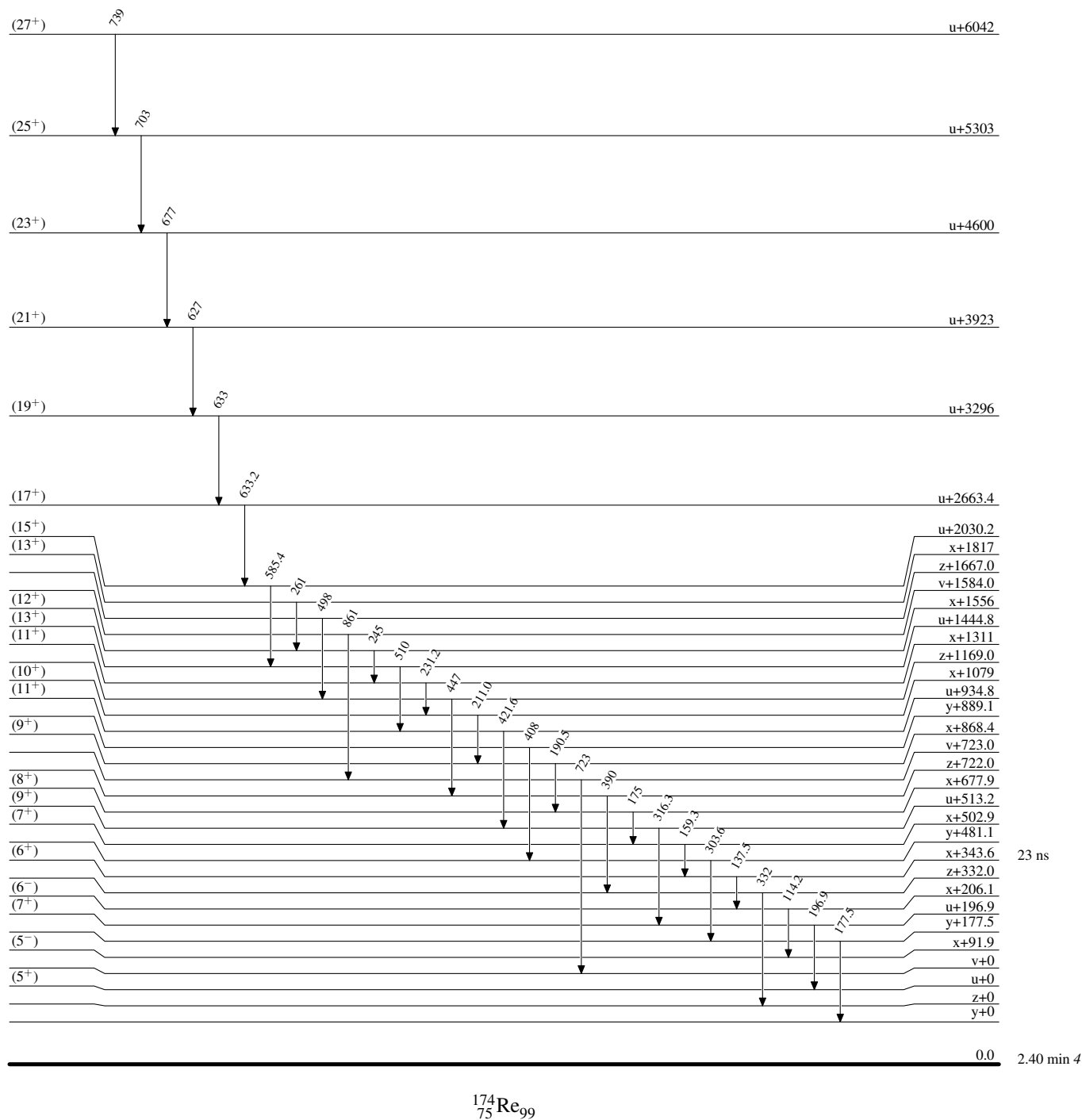
[†] From 1988ChZQ, except as noted.

[‡] From 1989McZT.

[#] 1989McZT report 511 keV.

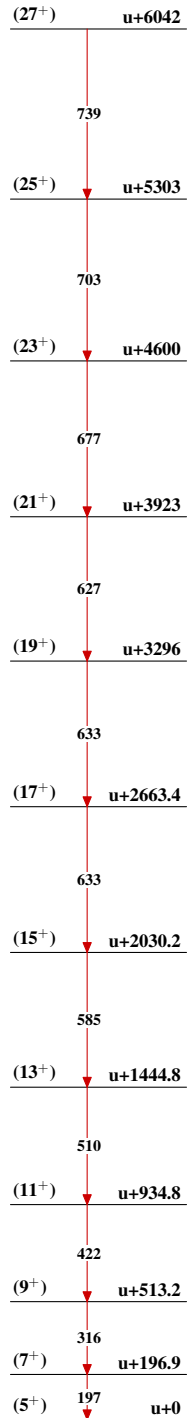
Adopted Levels, Gammas

Level Scheme

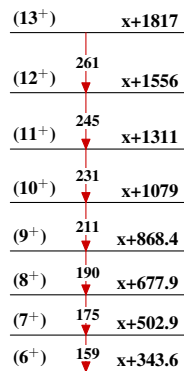


Adopted Levels, Gammas

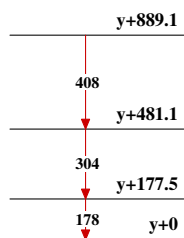
Band(A): Configuration= $(\pi$
 $1/2(541))+(\nu 1/2(510))$,
 from 1989McZT



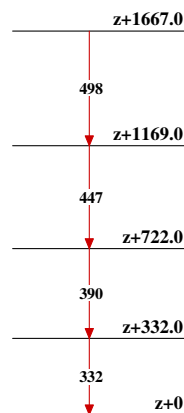
Band(B): Rotational band
 1, from 1988ChZQ



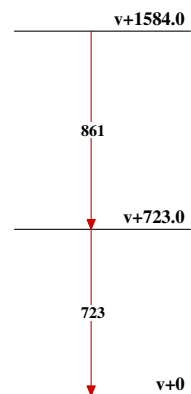
Band(C): Rotational band
 2, from 1988ChZQ



Band(D): Rotational band
 3, from 1988ChZQ



Band(E): Rotational band
 4, from 1988ChZQ



Band(F): Rotational band
 5, from 1988ChZQ

