

<sup>108</sup>Rh β<sup>-</sup> decay (16.8 s) 1978Fr16

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Parent: <sup>108</sup>Rh: E=0.0; J<sup>π</sup>=1<sup>+</sup>; T<sub>1/2</sub>=16.8 s 5; Q(β<sup>-</sup>)=4.51×10<sup>3</sup> 11; %β<sup>-</sup> decay=100.0  
 Activity: chemical separation from fission products.  
 Others: 1958Ba02, 1962Pi02, 1969WiZX, 1971Ri02, 1975Fe12.  
 Measured: γ, γγ, βγ (1989Gr23).

<sup>108</sup>Pd Levels

E(level)	J <sup>π</sup> †
0.0	0 <sup>+</sup>
434.1	2 <sup>+</sup>
931.4	2 <sup>+</sup>
1053.0	0 <sup>+</sup>
1441.4	2 <sup>+</sup>
1540.0	(1 <sup>+</sup> ,2 <sup>+</sup> )

† From Adopted Levels.

β<sup>-</sup> radiations

E(decay)	E(level)	Iβ <sup>-</sup> †‡	Log ft	Comments
(2.97×10 <sup>3</sup> # 11)	1540.0			
(3.07×10 <sup>3</sup> # 11)	1441.4			
(3.46×10 <sup>3</sup> 11)	1053.0	15 4	5.6 4	av Eβ= 1.5×10 <sup>3</sup> 3 E(decay): Eβ= 3520 75.
(3.58×10 <sup>3</sup> 11)	931.4	6.3 17	6.0 4	av Eβ= 1.5×10 <sup>3</sup> 3 E(decay): Eβ= 3545 50.
(4.08×10 <sup>3</sup> 11)	434.1	23 6	5.7 4	av Eβ= 1.8×10 <sup>3</sup> 3 E(decay): Eβ= 4140 55.
(4.51×10 <sup>3</sup> 11)	0.0	56 11	5.5 3	Iβ <sup>-</sup> : this value is an upper limit since Iγ for the feeding transitions 1007.3 and 1105.9 are not known. av Eβ= 2.0×10 <sup>3</sup> 3 E(decay): 4500 600 (1962Pi02), 3700 (1958Ba02); scin. Iβ <sup>-</sup> : Iγ(1441γ) to g.s. is not known, but from the authors' spectrum it appears to be negligible relative to the deduced Iγ imbalance.

† From I(γ+ce)-imbalance at each level.  
 ‡ Absolute intensity per 100 decays.  
 # Existence of this branch is questionable.

γ(<sup>108</sup>Pd)

Iγ normalization: from Iγ(434γ)/decay= 0.43 11 (1962Pi02) calibrated via absolute Iγ(303γ,<sup>107</sup>Pd)= 0.73 6.

<sup>108</sup>Rh β<sup>-</sup> decay (16.8 s) **1978Fr16** (continued)

γ(<sup>108</sup>Pd) (continued)

E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub> <sup>†#</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>‡</sup>	δ <sup>‡</sup>	Comments
434.1 3	100	434.1	2 <sup>+</sup>	0.0 0 <sup>+</sup>				E <sub>γ</sub> : other: 433.7 3 (1969WiZX).
497.3 3	12 1	931.4	2 <sup>+</sup>	434.1 2 <sup>+</sup>		M1+E2	-3.1 4	E <sub>γ</sub> : other: 497.47 45 (1969WiZX). Mult.: δ from Adopted Levels and Coul ex. I <sub>γ</sub> : others: 17 3 (1969WiZX), 15 (1975Fe12).
<sup>x</sup> 609.5								
618.9 3	35 3	1053.0	0 <sup>+</sup>	434.1 2 <sup>+</sup>		E2		E <sub>γ</sub> : other: 618.7 5 (1969WiZX). I <sub>γ</sub> : others: 48 8 (1969WiZX), 33 (1975Fe12).
<sup>x</sup> 891.9								
931.7	2.9 3	931.4	2 <sup>+</sup>	0.0 0 <sup>+</sup>		E2		I <sub>γ</sub> : from I <sub>γ</sub> (932γ)/I <sub>γ</sub> (497γ)=0.241 18. See adopted γ's.
1007.3		1441.4	2 <sup>+</sup>	434.1 2 <sup>+</sup>				
1105.9		1540.0	(1 <sup>+</sup> ,2 <sup>+</sup> )	434.1 2 <sup>+</sup>				
1441.4		1441.4	2 <sup>+</sup>	0.0 0 <sup>+</sup>				I <sub>γ</sub> : not known but from the author's spectrum it appear to be negligible.
<sup>x</sup> 1500.8								

<sup>†</sup> E<sub>γ</sub>, I<sub>γ</sub> are from 1978Fr16, except as noted. Internal conversion is negligible.

<sup>‡</sup> From adopted gammas.

<sup>#</sup> For absolute intensity per 100 decays, multiply by 0.43 11.

<sup>x</sup> γ ray not placed in level scheme.

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Decay Scheme

Intensities: I<sub>γ</sub> per 100 parent decays

Legend

