

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh		NDS 164, 1 (2020)	15-Feb-2020

$Q(\beta^-)=4591.5$; $S(n)=5990.7$; $S(p)=7871.5$; $Q(\alpha)=-3598.8$ [2017Wa10](#)

$S(2n)=14064.5$, $S(2p)=19767.8$ ([2017Wa10](#)).

In $^{100}\text{Mo}(d,\alpha)$ $E=12, 23$ MeV ([1975BrZB](#),[1975FoZU](#)), excitation of 25 levels is indicated but details of this work are unavailable.

A 1.5-min ^{98}Nb isomer ([1966Gu05](#)) is discarded due to lack of confirmation in later studies ([1969Hu07](#),[1976He10](#)).

[Additional information 1](#).

Theory references: consult the NSR database (www.nndc.bnl.gov/nsr/) for 5 primary references, 2 dealing with nuclear structure calculations and 3 with decay modes and half-lives.

 ^{98}Nb LevelsCross Reference (XREF) Flags

A ^{98}Zr β^- decay (30.7 s)
B $^{96}\text{Zr}({}^3\text{He},p)$

E(level)	J^π [†]	$T_{1/2}$	XREF	Comments
0	1^+	2.86 s 6	AB	$\% \beta^- = 100$ Configuration= $\pi g_{9/2} \otimes \nu g_{7/2}$ (1975Me13). J^π : $\log ft=4.2$ from 0^+ . $T_{1/2}$: from 1976He10 . Other: 2.8 s 2 (1967Hu08).
84 4	$(5)^+$	51.1 min 4	B	$\% \beta^- = 99.9$ I; $\% IT < 0.2$ (1976He10) J^π : $L({}^3\text{He},p)=4$ from 0^+ . Strong excitation indicates configuration= $\pi g_{9/2} \otimes \nu s_{1/2}$ (1975Me13). E(level): the ordering of the two $L=4$ levels (84 and 226) is determined by $\sigma(84)/\sigma(226)=0.78$ compared with a predicted value $\sigma(5^+)/\sigma(4^+)=0.26$. $T_{1/2}$: weighted average of 51.3 min 4 (1976He10), 50.0 min 9 (1976Si04), 51.5 min 10 (1960Or02), and 51 min 1 (1966Gu05). Others: 51 min 3 (1962Wa36), and 51 min 5 (1961Ta08). 1966Gu05 also report a half-life of 1.5 min 5 for another isomer, which, however, was not observed in later studies in 1969Hu07 , 1976Si04 , 1976He10 .
226 5	$(4)^+$		B	E(level): see comment for 84 level. J^π : $L({}^3\text{He},p)=4$ from 0^+ . Strong excitation indicates configuration= $\pi g_{9/2} \otimes \nu s_{1/2}$ (1975Me13).
534 7			B	
617 7			B	
680 7			B	
737 4	$(3)^+$		B	J^π : $L({}^3\text{He},p)=2+4$; energy and strength are consistent with the values calculated for the 3^+ member of the configuration= $\pi g_{9/2} \otimes \nu g_{7/2}$ multiplet (1975Me13).
807 10			B	
907 5			B	
1034 6			B	
1382 6			B	
1483 5			B	
1598 8			B	
1723 7			B	
1771 10			B	
1869 10			B	
2023 10			B	

[†] $L({}^3\text{He},p)$ used for J^π assignments are considered by evaluators as probable values.