

$^{96}\text{Zr}(^3\text{He},\text{p})$ 1975Me13

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

1975Me13: E=18 MeV ^3He beam was produced from the University of Pennsylvania tandem accelerator. Target was 85.25% enriched ^{96}Zr with a thickness of about $170 \mu\text{g}/\text{cm}^2$. Reaction products were momentum-analyzed with a multi-angle spectrograph (FWHM=25 keV) and detected in nuclear emulsion plates. Measured $\sigma(\theta)$. Deduced levels, J, π , L-transfers from DWBA analysis using 2-particle transfer option. Measured Q value=-5728.5.

 ^{98}Nb Levels

E(level)	J $^{\pi\dagger}$	L ‡	Comments
0	(1 ⁺)	0+2	Configuration= $\pi g_{9/2} \otimes \nu g_{7/2}$. E(level): possibly contributed by an unresolved 2 ⁺ state.
84 4	(5 ⁺)	4	Configuration= $\pi g_{9/2} \otimes \nu s_{1/2}$. $\sigma(84)/\sigma(226)=0.78$. From DWBA, this ratio is 0.26.
226 5	(4 ⁺)	4	Configuration= $\pi g_{9/2} \otimes \nu s_{1/2}$.
534 [#] 7			
617 [#] 7			
680 7			
737 4	(3 ⁺)	2+4	Configuration= $\pi g_{9/2} \otimes \nu g_{7/2}$.
807 10			
907 5			
1034 6			
1382 6			
1483 5			
1598 8			
1723 7			
1771 10			
1869 10			
2023 10			

† From DWBA. Levels are interpreted in terms of coupling of $1g_{9/2}$, $2p_{1/2}$ protons with $1g_{7/2}$, $3s_{1/2}$ and $2d_{5/2}$ neutrons (**1975Me13**).

‡ Consistent with DWBA and cross sections (**1975Me13**).

[#] Possible doublet with ^{92}Nb contaminant (**1975Me13**).