^{100}Ru(α,α') 1976De33,1996Go36

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 172, 1 (2021)	31-Jan-2021

1996Go36: E=9-17, 22 MeV alpha beams were produced from the Sao Paulo Pelletron accelerator. Targets were 5-30 μg/cm^2 97.2% enriched ^{100}Ru on ≈20 μg/cm^2 carbon backings. Scattered alphas were detected with surface-barrier detectors (FWHM=30-40 keV). Measured $\sigma(\theta)$ and Coulomb excitation functions. Deduced deformation lengths.

1976De33: E=104 MeV alpha beam was produced from the 280-cm-diam AVF Groningen cyclotron. Target was 150 μg/cm^2 97.2% enriched ^{100}Ru on a 20 μg/cm^2 formvar backing. Scattered alpha particles were detected with a ΔE-E detector telescope (FWHM≈100 keV). Measured $\sigma(\theta)$. Deduced levels, J, π, L-transfers from DWBA analysis. Comparisons with theoretical calculations. 1976De33 report data mostly on ^{100}Mo(α,4nγ).

^{100}Ru Levels

E(level)[†]	J$^\pi$[‡]	L	Comments
0	0$^+$		
540	2$^+$	(2)	B(E2)↑=0.471 *14* (1996Go36) L: from DWBA analysis of three-point $\sigma(\theta)$ (1976De33). B(E2) deduced from β_2R(charge)=1.154 *17* (1996Go36). β_2R(nuclear)=1.12 *5* (1996Go36).
1226	4$^+$		
1362	2$^+$		
2167	3$^-$	3	B(E3)↑=0.044 (1996Go36) E(level): 2180 *20* from 1976De33. L: from DWBA analysis of $\sigma(\theta)$ in the range 7° to 13° (c.m.) (1976De33). β_3R(nuclear)=0.76 *2* (1996Go36).
2367	4$^+$		Level seen at E=16 and 17 MeV (1996Go36). β_4R(nuclear)=0.0.038 *8* (1996Go36).

[†] Level population from (α,α') spectra shown by 1996Go36 and 1976De33. Level energies are rounded values from the Adopted Levels.

[‡] From the Adopted Levels.