^{93}Nb(d,d′), (pol d,d) 1962Jo05,1995Ay03

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 112, 1163 (2011)	15-Dec-2010

1995Ay03: E(pol d)=12 MeV, enriched target, ΔE-E Si surface barrier detector telescopes, θ(c.m.)≈55°−170°; measured vector and tensor analyzing powers for g.s. only; optical model analysis.

1962Jo05: E_d=15 MeV, FWHM=40 keV, θ(lab)=36°, 47°, magnetic spectrograph with photographic emulsions.

^{93}Nb Levels

E(level)[†]	J^π[‡#]	dσ/dΩ(37°)[@]	Comments
0[&]			
750	+	70	dσ/dΩ(36°)/dσ/dΩ(47°)=1.2 (1962Jo05).
960	+	120	dσ/dΩ(36°)/dσ/dΩ(47°)=0.8 (1962Jo05).
1080	−	30	dσ/dΩ(36°)/dσ/dΩ(47°)=2.1 (1962Jo05). adopted π=+ for 1083 level.
1320	+	31	dσ/dΩ(36°)/dσ/dΩ(47°)=1.4 (1962Jo05).
1510	+	10	dσ/dΩ(36°)/dσ/dΩ(47°)=0.9 (1962Jo05). adopted π=+ for 1484 and 1491 levels, (−) for 1500 level.
1680	−	11	dσ/dΩ(36°)/dσ/dΩ(47°)=2.4 (1962Jo05). adopted π=+.
1960	+	12	dσ/dΩ(36°)/dσ/dΩ(47°)=0.9 (1962Jo05).
2170	−	50	dσ/dΩ(36°)/dσ/dΩ(47°)=2.4 (1962Jo05). possibly the 2154 level.
2510		20	dσ/dΩ(36°)/dσ/dΩ(47°)=1.8 (1962Jo05).
2850	+	30	dσ/dΩ(36°)/dσ/dΩ(47°)=1.2 (1962Jo05).

[†] From 1962Jo05; ΔE not stated by authors.

[‡] π deduced by 1962Jo05 from ratio of dσ/dΩ at 36° and at 47° (based on empirical phase rule).

[#] Typically In this mass region, cross section ratios of 0.4 to 1.4 indicate π=+ and ratios of 1.9 to 3.1 indicate π=− states (intermediate values inconclusive) (1962Jo05). however, some of the groups reported May Be multiplets.

[@] Relative dσ/dΩ(47°) from 1962Jo05.

[&] From 1995Ay03; must also Be present In 1962Jo05.