

$^{34}\text{S}(\text{pol d}, ^4\text{He})$ 1977Ba68,1982Ma25

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Christian Ouellet, Balraj Singh		NDS 112, 2199 (2011)	24-Aug-2011

1977Ba68: E=8.25-9.50 MeV deuterons from the FN tandem accelerator at McMaster University. Sb_2S_3 enriched target (92.3% ^{34}S). α particles momentum analyzed with an Enge split pole magnetic spectrograph and focal plane positions sensitive gas-filled proportional counter. α particles detected at 4° relative to the beam direction to attenuate slightly the tensor analyzing power expected for 0^- and natural parity states. FWHM=32 keV. Measured analyzing powers for parity determination.

1982Ma25: E=52 MeV deuterons at the Karlsruhe isochronous cyclotron. H_2^{34}S gas target. α detected with $\Delta\text{E-E}$ telescopes. FWHM=300 keV. Beam polarization of 0.48 3. Measured angular distribution and analyzing powers, DWBA calculations.

 ^{32}P Levels

E(level) [†]	J π [†]	L \ddagger	E(level) [†]	J π [†]	L \ddagger	E(level) [†]	J π [†]	L \ddagger
0 [#]	1+ [#]	2	3793 4	2 ⁻ ,3+ ^{&}	2	4944	1 ⁻ ,2 ⁺ ,3 ^{-c}	
1150	1+ ^{&}	0	3875	2+ ^a		5010	2+ [#] @ ^{&}	2
1323	2+ ^a		4149	3 ^{-b}		5082	2+ [@] ^{&}	2
1754	3+ ^{&}	4	4203	1+ ^{&}		5550	@ ^a	
2180 [#]	3+ [#]	4	4275	5 ^{-c}		5890 [#]	2+ [#]	2
2658	2+ ^a		4313	2 ⁻ ,3 ⁺ ,(1 ⁺) ^{&}		6430 [#]	5+ [#]	4
2741	1+ ^{&}		4412	0 ⁻ ,(2 ⁻) ^{&}		7190 [#]	(4 ⁺) [#]	4
3004	3+ ^{&}	2	4554	1 ⁺ ,2 ⁻ ,3+ ^{&}		7960 [#]	5+ [#]	4
3149	4+ ^a	4	4663	2 ⁻ ,(3 ⁺) ^{&}		8090 [#]	5+ [#]	4
3264	2 ⁻ ^{&}		4750 [#]	5+ [#]	4	8540 [#]	5+ [#]	4
3322	3 ^{-a}		4850	3 ⁺ ,4 ⁻ ,5+ ^{&}				

[†] From 1977Ba68, unless noted otherwise.

[‡] From 1982Ma25.

[#] From 1982Ma25.

@ Not 0^- (1977Ba68).

& Unnatural-parity state (1977Ba68).

^a Natural-parity state (1977Ba68).

^b Possible unnatural-parity state (1977Ba68).

^c Possible natural-parity state (1977Ba68).