

---

 $^{36}\text{S}(\text{d}, ^3\text{He})$  [1984Th08](#)

---

$J^\pi=0^+$  for  $^{36}\text{S}$  ground state.

[1984Th08](#): A 30-MeV deuteron beam was produced from the BNL Double MP tandem facility. Targets were 20.1 and 23.0  $\mu\text{g}/\text{cm}^2$  sulphur with  $^{36}\text{S}$  enriched to 81.1%. Reaction products were momentum-analyzed with the BNL Q3D magnetic spectrometer (FWHM $\approx$ 32 keV) and detected with a multi-wire proportional counter backed by a topping plastic scintillator. Measured  $\sigma(E(^3\text{He}), \theta)$ . Deduced levels, J,  $\pi$ , L-transfers, spectroscopic factors from the finite-range DWUCK4-DWBA analysis of the angular distributions.

---

 $^{35}\text{P}$  Levels

---

Spectroscopic factor  $\text{C}^2\text{S}=(2j+1)\times\sigma(\theta)_{\text{exp}}/\sigma(\theta)_{\text{DWBA}}/\text{N}$ , where j denotes the total angular momentum of the transferred nucleon.

N=29.5 is a normalization factor adopted by [1984Th08](#). The discrepancy from the original N=2.95 in [1966Ba54](#) likely arises from different units of cross sections.

$\text{E}(\text{level})^\dagger$	$\text{L}^\ddagger$	$\text{C}^2\text{S}^\ddagger$
0	0	2.3 12
3864 10	2	1.45, 1.10 <sup>#</sup>
4664 10	2	0.53, 0.41 <sup>#</sup>
5202 10	2	0.40, 0.30 <sup>#</sup>

<sup>†</sup> Deduced from measured  $^3\text{He}$  spectra.

<sup>‡</sup> From DWBA analysis of measured  $\sigma(\theta)$ . The uncertainty of  $\text{C}^2\text{S}$  is estimated to be 50% by [1984Th08](#).

<sup>#</sup> Quoted values are for  $j=L-1/2$  ( $1d_{3/2}$ ) and  $L+1/2$  ( $1d_{5/2}$ ), respectively.