## $^{34}$S(p,$^{3}$He) 1969Ha19,1970Ha10

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
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1969Ha19,1970Ha10: E=45 MeV proton beam was produced from the Berkeley 88-inch cyclotron. Target was a self-supporting cadmium sulfide (67.92% $^{34}$S) with a thickness of about 100 $\mu$g/cm$^2$. Reaction products were detected using two solid state counter telescopes. Measured $\sigma(\theta)$. Deduced levels, J, $\pi$, analog states. Comparisons with DWBA calculations. Simultaneous measurement of (p,t) and (p,$^{3}$He) reaction on $^{34}$S target to study parentage of nuclear states of the same isospin, in this case $^{32}$S and $^{32}$P.

### $^{32}$P Levels

| E(level)[†] | J$^\pi$ | L | Comments |
|---|---|---|---|
| 0 | | | |
| 78 | 2$^+$ | | T=1<br>E(level),J$^\pi$: from 1969Ha19; analog state of 7005 level in $^{32}$S (1969Ha19).<br>Measured d$\sigma$/d$\Omega$(p,t)/d$\sigma$/d$\Omega$(p,$^{3}$He)=1.20 *30*, compared to predicted value of 1.8 for T=1 (1969Ha19). |
| 3005 | | | |
| 5071 *40* | 0$^+$ | 0 | T=2<br>E(level): analog to g.s. of $^{32}$Si and 12034 *40* level of $^{32}$S (1970Ha10).<br>J$^\pi$,L: observed $\sigma(\theta)$ consistent with L=0 (1970Ha10).<br>Measured d$\sigma$/d$\Omega$(p,t)/d$\sigma$/d$\Omega$(p,$^{3}$He)=0.66 *6*, compared to predicted value of 0.60 for T=2 (1970Ha10). |

[†] From 1970Ha10, unless otherwise noted.