## $^{9}\text{Be}(^{28}\text{S},^{27}\text{P}\gamma)$     **2008Ga10**

### History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | M. Shamsuzzoha Basunia | NDS 112, 1875 (2011) | 30-Nov-2010 |

One-proton knockout reaction: $^{28}\text{S}$ obtained from fragmentation of $^{36}\text{Ar}$ on a $^{9}\text{Be}$ target, E=150 MeV/nucleon; fragments separated by the A1900 fragment separator at MSU, the secondary beam of $^{28}\text{S}$, E=80.7 MeV/nucleon, bombarded a $^{9}\text{Be}$ target; 32-fold Segmented Germanium Array (SeGA), S800 spectrograph, two plastic scintillators; Measured: E$\gamma$, time-of-flight, deduced level population cross section.

### $^{27}\text{P}$ Levels

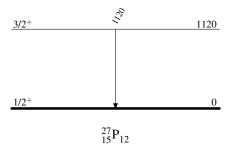| E(level) | $J^{\pi\dagger}$ | L | Comments |
|---|---|---|---|
| 0 | $1/2^+$ | $0+2^{\ddagger}$ | $\sigma$=31(3) mb. |
| | | | Total cross section for g.s. + excited state=38(3) mb. |
| | | | Shell Model Configuration=$s_{1/2}$. |
| 1120 $8$ | $3/2^+$ | $0+2^{\ddagger}$ | E(level): From $\gamma$-ray energy and reported feeding to g.s. |
| | | | $\sigma$=6.8(11) mb. Shell Model Configuration=$d_{3/2}$. |

$^{\dagger}$ From comparison of the measured cross section and shell model calculated values.
$^{\ddagger}$ Combined for g.s. and 1100 level, 80% L=0 and 20% L=2.

### $\gamma(^{27}\text{P})$

| $E_\gamma$ | $E_i$(level) | $J^\pi_i$ | $E_f$ | $J^\pi_f$ |
|---|---|---|---|---|
| 1120 $8$ | 1120 | $3/2^+$ | 0 | $1/2^+$ |

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### Level Scheme



$^{27}_{15}\text{P}_{12}$