## Adopted Levels, Gammas

History

| Type | Author | Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | M. Shamsuzzoha Basunia | NDS 113,909 (2012) | 1-Jan-2012 |

Q($\beta^-$)=1.572×10$^4$ *10*; S(n)=9.6×10$^2$ *14*; S(p)=2.181×10$^4$ *22*; Q($\alpha$)=−1.137×10$^4$ *15* 2012Wa38
Note: Current evaluation has used the following Q record 15.73E+3 10 *9.6*×10$^2$ *14* 22004 syst-11.4e$^+$315 2011AuZZ.
ΔS(p)=513(syst) 2011AuZZ.
2003Au03: Q($\beta^-$)=15400 *300*, S(n)=1300 *300*, S(p)=22500 *600*(syst), Q($\alpha$)=−11800 *400*(syst).

2006Kh08: $^{29}$Ne beam, 41.62 and 36.31 MeV/nucleon, bombarded a Si target, measured $\sigma$=2522 mb 108 and $\sigma$=2689 mb 157, respectively, for the Si($^{29}$Ne,x) reaction and a squared reduced absorption radius of $r_0^2$=1.328 fm$^2$ 46 is deduced and used to study the isospin dependence.

### $^{29}$Ne Levels

Cross Reference (XREF) Flags

A $^9$Be($^{32}$Mg,2pn$\gamma$)

| E(level) | J$^\pi$[†] | T$_{1/2}$ | XREF | Comments |
|---|---|---|---|---|
| 0 | (3/2$^+$) | 15 ms *3* | A | %$\beta^-$=100; %$\beta^-$n=28 *5*; %$\beta^-$2n=4 *1*<br>%$\beta^-$n: weighted average of 29 *7* (2006Tr02,2005Tr05), 27 *9* (1999Dl01) and 27 *9* (1999Re16).<br>%$\beta^-$2n: From 2006Tr02, 2005Tr05.<br>J$^\pi$: From systematics. Its intruder configuration predicted to be 100% 2p2h from shell model calculation.<br>T$_{1/2}$: From 1997Ta22. Others: 15.1 ms *26* (gated on 72$\gamma$-2006Tr02), 16.4 ms *13* (gated on 1516$\gamma$-2006Tr02) 13.8 ms *5* (2005Tr05,2005Tr13), 15.6 ms *5* (1998NoZZ), 15 ms *4* (1999Dl01), 19 ms *9* (1999Re16), and 200 ms *100* (1992Te03). |
| 232 *6* | (1/2$^+$,3/2$^-$) | | A | J$^\pi$: Shell model calculation predicts negative-parity 1p1h 3/2$^-$ state at 420-keV and a 2p2h state of 1/2$^+$ at 540-keV. |
| 622 *4* | (1/2$^+$,7/2$^+$) | | A | J$^\pi$: From shell model calculation with 2p2h "K=1/2 band" of levels at 540-keV (1/2$^+$) and 850-keV (7/2$^+$). |
| 931 *8* | (5/2$^-$,7/2$^+$) | | A | |

[†] From 2007RoZY, based on comparison of the experimental level energy with the predicted level energy from shell model calculations.

### $\gamma$($^{29}$Ne)

| E$_i$(level) | J$_i^\pi$ | E$_\gamma$ | I$_\gamma$ | E$_f$ | J$_f^\pi$ | Comments |
|---|---|---|---|---|---|---|
| 232 | (1/2$^+$,3/2$^-$) | 232 | 100 | 0 | (3/2$^+$) | |
| 622 | (1/2$^+$,7/2$^+$) | 622 *4* | 100 | 0 | (3/2$^+$) | E$_\gamma$: 680(60) in 2005Be60. |
| 931 | (5/2$^-$,7/2$^+$) | 931 *8* | 100 | 0 | (3/2$^+$) | The 931$\gamma$ feeds g.s. and is placed from 931-keV level, based on the fact that the S(n)($^{29}$Ne)=960 *140* and it is unlikely that the 931$\gamma$ would feed the 622-keV level. |

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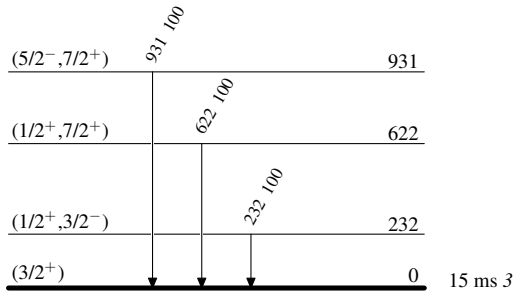
### Level Scheme

Intensities: Relative photon branching from each level




$^{29}_{10}Ne_{19}$