**(HI,xnγ)**     **1998Gr12**

### History

| Type | Author | Citation | Literature Cutoff Date |
|------|--------|----------|------------------------|
| Full Evaluation | E. Browne, J. K. Tuli | NDS 111, 1093 (2010) | 3-Mar-2009 |

Fragmentation of $^{78}$Kr beam, E=78 MeV. Studied decay of $^{66}$As$^{33+}$ implanted ions. Measured γ, γγ, γγ(t) using five high-efficiency Ge detectors. Other: 1995BlZZ.

Isomer production: 1356 level=8% 4, 3024 Level=21 % 3, relative to total $^{66}$As production,

Others:

1995Gr14,1995Le14: isomeric state of $^{66}$As produced by fragmentation of $^{112}$Sn E=58 MeV/A and E=63 MeV/u beams on natural Ni target and projectile fragment separator. No data given by authors.

1993Wi03,1993Wi18: $^{66}$As produced by fragmentation of an E=75 MeV/A, $^{78}$Kr beam by an enriched $^{58}$Ni target and projectile-fragment separator. Measured T$_{1/2}$.

### $^{66}$As Levels

| E(level) | J$^{π†}$ | T$_{1/2}$ | Comments |
|----------|----------|-----------|----------|
| 0.0 | [0$^+$] | | J$^π$: Expected from shell-model (2005Ha30). |
| 837.07? *10* | (1$^+$) | | J$^π$: J$^π$=(1,2$^+$) (1998Gr12). |
| 963.62? *23* | (2$^+$) | | J$^π$: J$^π$=(1,2$^+$) (1998Gr12). |
| 1231.24 *14* | (3$^+$) | | J$^π$: J$^π$=(2,3,4$^+$) (1998Gr12). |
| 1356.63 *17* | (5$^+$) | 1.1 μs *1* | T$_{1/2}$: from 2001Gr07. T$_{1/2}$=1.9 μs *5* (1998Gr12) has been superseded. J$^π$: J$^π$=(4,5,6$^+$) (1998Gr12). |
| 1901.6? *3* | (5$^+$) | | J$^π$: J$^π$=(3,4,5,6$^+$) (1998Gr12). |
| 2908.63 *24* | (7$^+$) | | |
| 3023.8 *3* | (9$^+$) | 8.2 μs *5* | J$^π$: J$^π$=(7,8,9,10$^+$) (1998Gr12). T$_{1/2}$: from 2001Gr07. T$_{1/2}$=17.5 μs *15* (1998Gr12) has been superseded. |

$^†$ From 2001Gr07 and are tentative. Their earlier values (1998Gr12) are based on their assumption of all transitions as M1,E1,E2, except for the 115 and 125γ, which are E2.
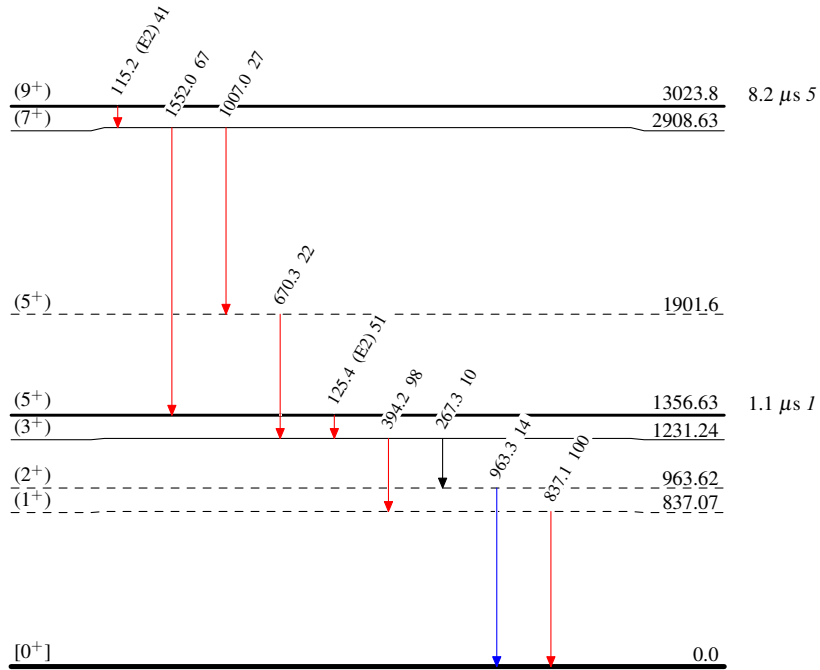
### γ($^{66}$As)

| E$_γ$ | I$_γ$ | E$_i$(level) | J$^π_i$ | E$_f$ | J$^π_f$ | Mult. | Comments |
|-------|-------|--------------|---------|-------|---------|-------|----------|
| 115.2 *1* | 41 *7* | 3023.8 | (9$^+$) | 2908.63 | (7$^+$) | (E2) | Mult.: from α(exp)=1.3 *4* deduced from intensity balance. |
| 125.4 *1* | 51 *7* | 1356.63 | (5$^+$) | 1231.24 | (3$^+$) | (E2) | Mult.: from α(exp)=0.7 *3* deduced from intensity balance. |
| 267.3 *3* | 10 *3* | 1231.24 | (3$^+$) | 963.62? | (2$^+$) | | |
| 394.2 *1* | 98 *7* | 1231.24 | (3$^+$) | 837.07? | (1$^+$) | | |
| 670.3 *3* | 22 *4* | 1901.6? | (5$^+$) | 1231.24 | (3$^+$) | | |
| 837.1 *1* | 100 *7* | 837.07? | (1$^+$) | 0.0 | [0$^+$] | | |
| 963.3 *3* | 14 *4* | 963.62? | (2$^+$) | 0.0 | [0$^+$] | | |
| 1007.0 *3* | 27 *5* | 2908.63 | (7$^+$) | 1901.6? | (5$^+$) | | |
| 1552.0 *2* | 67 *6* | 2908.63 | (7$^+$) | 1356.63 | (5$^+$) | | |

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Level Scheme

Intensities: Type not specified

Legend

$I_\gamma < \ 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{66}_{33}$As$_{33}$