## $^{204}$Pb($^{3}$He,d),($\alpha$,t) 1973Er08

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | F. G. Kondev | NDS 166, 1 (2020) | 20-Apr-2020 |

E($^{3}$He)=44 MeV, E($\alpha$)=45 MeV; Target: isotopically enriched $^{204}$Pb, self-supporting, metallic 75 $\mu$g/cm$^2$ thick; Detectors: K2 emulsions 100 $\mu$g thick, located at the image surface of the first magnet of the three-stage magnetic analysis system. FWHM=15-40 keV.

### $^{205}$Bi Levels

| E(level)[†] | J$^\pi$[‡] | L | S[#] | Comments |
|---|---|---|---|---|
| 0[&] | 9/2$^-$ | 5 | 0.90 | |
| 850[a] *20* | 7/2$^-$ | 3 | 0.17 | |
| 1000[a] *20* | 7/2$^-$ | 3 | 0.53 | |
| 1040[&] *20* | (9/2)$^-$ | | | J$^\pi$: From Adopted Levels. |
| 1240[a] *20* | 7/2$^-$ | 3 | 0.13 | |
| 1590[b] *20* | 13/2$^+$ | 6 | 0.82 | |
| 1960[c] *25* | (3/2)$^-$ | 1 | 0.09 | |
| 2140[d] *25* | (5/2)$^-$ | 3 | 0.06 | |
| 2310[d] *25* | (5/2$^-$) | (3) | ≈0.06 | S: Assuming J=5/2. |
| 2400[c] *25* | (3/2)$^-$ | 1 | 0.10 | |
| 2640[d] *25* | (5/2)$^-$ | 3 | 0.06 | |
| 2700 *25* | | ≥3 | | |
| 2740 *25* | | ≥3 | | |
| 2790 *25* | (3/2,5/2)$^-$ | 1+3 | ≈0.04 | L: 60% $l$=1 ($\pi(p_{3/2})^{+1}$) and 40% $l$=3 ($\pi(f_{5/2})^{+1}$) components (1973Er08). |
| 2870[d] *35* | (5/2)$^-$ | 3 | 0.19 | |
| 2930[d] *35* | (5/2)$^-$ | 3 | 0.07 | |
| 3010[d] *35* | (5/2)$^-$ | 3 | 0.13 | |
| 3060[d] *35* | (5/2)$^-$ | 3 | 0.09 | |
| 3170[c] *35* | (3/2)$^-$ | 1 | 0.17 | |
| 3220[c] *35* | (3/2)$^-$ | 1 | 0.19 | |
| 3300[@] *35* | | | | |
| 3360[@] *35* | | | | |
| 3390[@] *35* | | | | |
| 3410[@] *35* | | | | |

[†] From 1973Er08.
[‡] Based on L and S values in 1973Er08, unless otherwise stated.
[#] Relative to S values for $^{209}$Bi using potential parametrization "B" in 1973Er08.
[@] Unresolved multiplet. Analysed together and associated with the fragmented $\pi(p^{+1}_{3/2})$ configuration (S=0.35) in 1973Er08.
[&] Dominant configuration=$\pi(h^{+1}_{9/2})$.
[a] Dominant configuration=$\pi(f^{+1}_{7/2})$.
[b] Dominant configuration=$\pi(i^{+1}_{13/2})$.
[c] Fragmented configuration=$\pi(p^{+1}_{3/2})$.
[d] Fragmented configuration=$\pi(f^{+1}_{5/2})$.