## $^{207}$At $\alpha$ decay

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | F. G. Kondev | NDS 177, 509, 2021 | 4-Jul-2021 |

Parent: $^{207}$At: E=0; $J^{\pi}=9/2^{-}$; $T_{1/2}$=1.81 h *3*; Q($\alpha$)=5872 *3*; %$\alpha$ decay=8.6 *10*
$^{207}$At-E,$J^{\pi}$,$T_{1/2}$: From Adopted Levels for $^{207}$At (2011Ko04).
$^{207}$At-Q($\alpha$) from 2021Wa16.
$^{207}$At-%$\alpha$ decay: From Adopted Levels for $^{207}$At (2011Ko04).

### $^{203}$Bi Levels

| E(level)† | $J^{\pi}$† | $T_{1/2}$† |
|---|---|---|
| 0 | $9/2^{-}$ | 11.76 h *5* |

† From Adopted Levels.

### $\alpha$ radiations

| E$\alpha$ | E(level) | I$\alpha$‡ | HF† | Comments |
|---|---|---|---|---|
| 5758 *3* | 0 | 100 | 1.07 *13* | E$\alpha$: From 1991Ry01, based on 5752 keV *8* (1963Ho18) and 5759 keV *3* (1969Go23). The measured $^{207}$At $\alpha$-decay anisotropies of $A_2$=0.153 *5*, $A_4$=−0.037 *6* (1997Sc26 and 1996Sc35) suggests a L=2/L=0 mixing ratio of 0.077 *3* and a L=4/L=0 mixing ratio of −0.023 *4*. Hence, the decay is interpreted as J to J (L=0) with a L=2 component of 0.17%. |

† Using $r_0$($^{203}$Bi)=1.457 *6*, weighted average from the neighboring $^{204}$Po ($r_0$=1.476 *5*) and $^{202}$Pb ($r_0$=1.4550 *17*) even-even N=120 nuclei.
‡ For absolute intensity per 100 decays, multiply by 0.086 *10*.