

$^{209}\text{Tl}$        $Z = 81$        $N = 128$       adopted link      ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 1637.180 ( 0.006) MeV

Qbeta- = 3.970 ( 0.006) MeV

|          | Energy T  | J+       | J-    | J-other      | T1/2        |
|----------|-----------|----------|-------|--------------|-------------|
| -----    |           |          |       |              |             |
| S-alpha= | -2.416    | ( 0.205) | ----- |              |             |
| 209TL    | 1   0.000 | 1/2+     |       |              | 1 2.162 M 7 |
| 209TL    | 2   0.324 | 3/2+     |       |              | 2           |
| 209TL    | 3         |          |       | 0.738        | 3           |
| 209TL    | 4         |          |       | 0.947        | 4           |
| 209TL    | 5         |          |       | 0.984 (7/2+) | 5           |

S-p = 7.668 ( 0.031)-----

S-n = 4.966 ( 0.006)-----

S-2p = 17.612 ( 0.207)-----

S-2n = 8.753 ( 0.008)-----

S-alpha= -2.416 ( 0.205)-----

S+p = -8.373 ( 0.006)

S+n = -3.673 ( 0.013)

S+2p = -12.792 ( 0.008)

S+2n = -8.576 ( 0.042)

S+alpha = 5.988 ( 0.008)

gap p = -0.704 ( 0.032)

gap n = 1.292 ( 0.015)

gap 2p = 4.820 ( 0.207)

gap 2n = 0.177 ( 0.043)

gap alpha = 3.573 ( 0.205)