**Coulomb excitation** **2017Al06,2011Da21,2002Ra21**

| Type | Author | History Citation | Literature Cutoff Date |
|---|---|---|---|
| Full Evaluation | E. A. Mccutchan | NDS 152, 331 (2018) | 1-Apr-2018 |

2002Ra21: $^{nat}$C($^{136}$Te,$^{136}$Te′$\gamma$) with E($^{136}$Te)=396 MeV. The $^{136}$Te beams were produced in proton-induced fission of a $UC_x$ target, extracted, ionized, charge-exchanged and accelerated in a tandem accelerator. Measured E$\gamma$, I$\gamma$, particle-$\gamma$ coincidences using the HyBall array consisting of 95CsI crystals to detect carbon recoils between 7° and 44° and the CLARION array consisting of eight segmented Clover Ge detectors for $\gamma$ rays; deduced B(E2) value. Similar results are presented in 2005Ra09, 2005Ra32, 2004Ra27.

2011Da21: Reanalysis of data from 2002Ra21 correcting for an erroneous target thickness; re-deduced B(E2) value.

2017Al06: Ti($^{136}$Te,$^{136}$Te′$\gamma$) with E($^{136}$Te)=410 MeV. Measured E$\gamma$, I$\gamma$, particle-$\gamma$ coincidences using CLARION HPGe Clover array, a 2$\pi$ CsI array, BareBall, and a Bragg-Curve gas detector; deduced B(E2) value, g-factor and quadrupole moment of first $2^+$ state. More details from the same measurement are presented in 2017St11.

## $^{136}$Te Levels

| E(level)† | $J^\pi$‡ | $T_{1/2}$ | Comments |
|---|---|---|---|
| 0.0 | $0^+$ | | |
| 607 | $2^+$ | 21.6 ps *41* | Q=−0.45 *23*; B(E2)↑=0.16 *3*; g=(+)0.34 *+16−12*<br>B(E2)↑: weighted average of 0.181 *15* (2017Al06) and 0.122 *18* (2011Da21). Value from 2011Da21 supersedes value of 0.103 *15* from 2002Ra21 which was calculated using an incorrect value for the target thickness.<br>$T_{1/2}$: deduced by evaluator from B(E2) and adopted gamma-ray properties.<br>g: from recoil-in-vacuum (2017Al06). Sign is not measured and from systematics.<br>Q: from reorientation method (2017Al06). |
| 1030 | $4^+$ | 70 ps *10* | B(E2)↑=0.108 *16*<br>B(E2)↑: from B(E2)↓=0.060 *9* (2017Al06).<br>$T_{1/2}$: deduced by evaluator from B(E2) and adopted gamma-ray properties. |
| 1568 | $(2^+)$ | | B(E2)↑<0.02<br>B(E2)(607 to 1568) < 0.09.<br>B(E2)↑: from B(E2)↓ < 0.004 (2017Al07). |

† Rounded values from the Adopted Levels.
‡ From the Adopted Levels.

## $\gamma$($^{136}$Te)

| $E_\gamma$† | $E_i$(level) | $J_i^\pi$ | $E_f$ | $J_f^\pi$ | Mult. | Comments |
|---|---|---|---|---|---|---|
| 423 | 1030 | $4^+$ | 607 | $2^+$ | E2 | |
| 607 | 607 | $2^+$ | 0.0 | $0^+$ | E2 | |
| 962 | 1568 | $(2^+)$ | 607 | $2^+$ | | |
| (1568) | 1568 | $(2^+)$ | 0.0 | $0^+$ | | $E_\gamma$: from level energy difference. Transition not observed. |

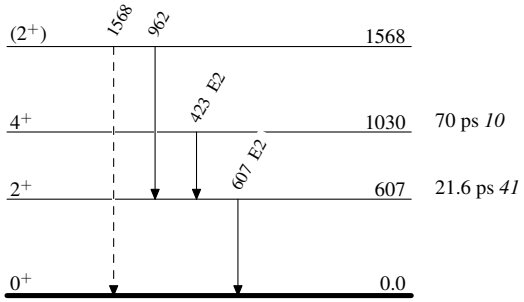
† Rounded values from the Adopted Gammas, except where noted.

Legend

**Coulomb excitation 2017Al06,2011Da21,2002Ra21**

Level Scheme

$\gamma$ Decay (Uncertain)




$^{136}_{52}Te_{84}$