

${}^4\text{He}({}^{40}\text{Ca},\alpha')$:resonances [2019Ba45](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh		NDS 190,1 (2023)	20-Jun-2023

Dataset adapted from compiled dataset by E.A. McCutchan (NNDC, BNL), Oct 06, 2020, available in the XUNDL database.

[2019Ba45](#): $E({}^{40}\text{Ca})=180$ MeV from GANIL facility. Scattered alpha particles measured using two 1-mm thick double-sided silicon strip detectors. Search for α -clustered states from resonant scattering.

 ${}^{44}\text{Ti}$ Levels

E(level)	J^π [†]	Comments
$\approx 11.19 \times 10^3$	0^+	
$\approx 11.75 \times 10^3$	1^-	
$\approx 12.37 \times 10^3$	2^+	
$\approx 12.94 \times 10^3$	3^-	
$\approx 13.36 \times 10^3$	4^+	
$\approx 14.33 \times 10^3$	0^+	
$\approx 14.8 \times 10^3$	5^-	
$\approx 15.81 \times 10^3$	6^+	
$\approx 16.57 \times 10^3$	2^+	J^π : proposed to be based on the 0^+ state at 14.33 MeV, as the level could not be assigned to a previously known or calculated state (2019Ba45).

[†] Based on comparison to known α -clustered states ([2019Ba45](#)).