

Coulomb excitation 2015Ke06

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

Beam= ^{200}Po produced in U(p,X),E=1.4 GeV reaction at REX-ISOLDE-CERN facility. The Po ions were laser ionized using RILIS and 1^+ charge states selected by the High-Resolution Separator. The ^{200}Po ions (97.90% 4 purity with 2.10% 4 Tl contamination) were accelerated to 2.85 MeV/nucleon using REX post accelerator. Target= ^{104}Pd , 2.0 mg/cm² thick. Detected scattered particles using double-sided silicon-strip detectors and γ rays by Miniball array of eight cluster Ge detectors. Measured $E\gamma$, $I\gamma$, (particle) γ -coin, angular distribution of scattered particles, Coulomb excitation spectra during laser-on and laser-off periods. Deduced Coulomb excitation yields, E2 matrix elements, B(E2).

 ^{200}Po Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
665.9 1	2^+	2.01 ps 11	B(E2) \uparrow =1.06 eb 6 from E2 matrix element ($0,0\pm > 666,2^+$)=+1.03 eb 3 and E2 diagonal matrix element ($666,2^+ \rightarrow 666,2^+$)=+0.1 eb 2 in 2015Ke06. If E2 diagonal matrix element ($666,2^+ \rightarrow 666,2^+$)=0, then B(E2) \uparrow =1.082 eb 16 from E2 matrix element ($0,0\pm > 666,2^+$)=+1.040 eb 8. $T_{1/2}$: From B(E2) \uparrow =1.06 eb 6.

 $\gamma(^{200}\text{Po})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α^\dagger	Comments
665.9 1	100	665.9	2^+	0.0	0^+	E2	0.01680 24	$\alpha(\text{K})=0.01250$ 17; $\alpha(\text{L})=0.00325$ 5; $\alpha(\text{M})=0.000800$ 11 $\alpha(\text{N})=0.0002054$ 29; $\alpha(\text{O})=4.15 \times 10^{-5}$ 6; $\alpha(\text{P})=4.79 \times 10^{-6}$ 7 E_γ : Value used in 2015Ke06 taken from the literature. $\sigma(\text{Coulomb excitation})=0.48$ b 3.

\dagger Additional information 1.

Coulomb excitation 2015Ke06Level SchemeIntensities: Relative I_γ 