Pb(^{31}Cl,^{31}Cl′) 2014La09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen and Balraj Singh	NDS 184, 29 (2022)	24-Jun-2022

Also C(^{31}Cl,^{31}Cl′).

2014La09: E=650 MeV/nucleon ^{31}Cl beam was produced by fragmentation of 825 MeV/nucleon ^{36}Ar beam with ^{9}Be target at GSI facility. Fragments was selected by Bρ-ΔE-Bρ technique in the FRS separator. Coulomb breakup process was used to study excitations in ^{31}Cl. Isotopes in the mixed beam were identified by time-of- flight and energy loss measurements. Secondary targets were 515 mg/cm^2 thick natural Pb for inducing electromagnetic excitations, and a 369.8 mg/cm^2 thick ^{12}C to determine nuclear contributions. γ rays were detected with a 4π array of 162 NaI(Tl) detectors; residues and protons were detected with two arrays of double-sided Si microchip detectors (DSSSDs).

^{31}Cl Levels

E(level)[†]	J$^\pi$	Comments
0	3/2$^+$	J$^\pi$: from the Adopted Levels.
782 *32*	(1/2$^+$)[‡]	
1793 *26*	(5/2$^+$)	

[†] Energies of excited states were deduced from energy-differential excitation spectrum of ^{31}Cl after subtraction of nuclear contributions (2014La09).

[‡] From shell-model calculations using USDB Hamiltonian.