^{7}Li(^{34}P,^{7}Beγ) 2010Ze03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Ninel Nica, Balraj Singh	NDS 113, 1563 (2012)	28-May-2012

2010Ze03: E(^{34}P)=100 MeV/nucleon; inverse kinematics. NSCL facility. ^{34}P secondary beam was produced in fragmentation of 140 MeV/nucleon ^{40}Ar beam on a Be target. A1900 fragment separator used to select ^{34}P. Particle-identification was achieved by energy loss and time-of-flight information. The γ rays were detected by SeGA array of fifteen 32-fold segmented Ge detectors. Detected (^{34}Si)γ and (^{34}Si)(^{7}Be) coin events. DWBA analysis of angular distribution data. Deduced β Gamow-Teller strength distributions. Comparison with *sdpf* shell-model calculations.

Level scheme is from literature, except for the new 5330 level from 2010Ze03.

^{34}Si Levels

E(level)	J^π	Comments
0.0†	0^+	Measured angular distribution compared with theoretical predictions.
3326	2^+	
4256		
4379		
4519?		
4970		
5041?		
5330†	2^+	Measured angular distribution compared with theoretical predictions for ΔL=0 transition. Deduced B(GT)=0.74 *18*(stat) +00-14(syst).
6022?		

† Level seen in (^{34}Si)(429γ) coin spectrum.

γ(^{34}Si)

E_i(level)	J_i^π	E_γ†	E_f	J_f^π	E_i(level)	J_i^π	E_γ†	I_γ	E_f	J_f^π
3326	2^+	3326	0.0	0^+	4970		591		4379	
4256		929	3326	2^+	5041?		1715		3326	2^+
		4255	0.0	0^+	5330	2^+	2000‡	59 *9*	3326	2^+
4379		125	4256				5330	100	0.0	0^+
		1053	3326	2^+	6022?		2696		3326	2^+
4519?		1193	3326	2^+						

† Doppler corrected γ rays.
‡ Placement of transition in the level scheme is uncertain.
^{x} γ ray not placed in level scheme.

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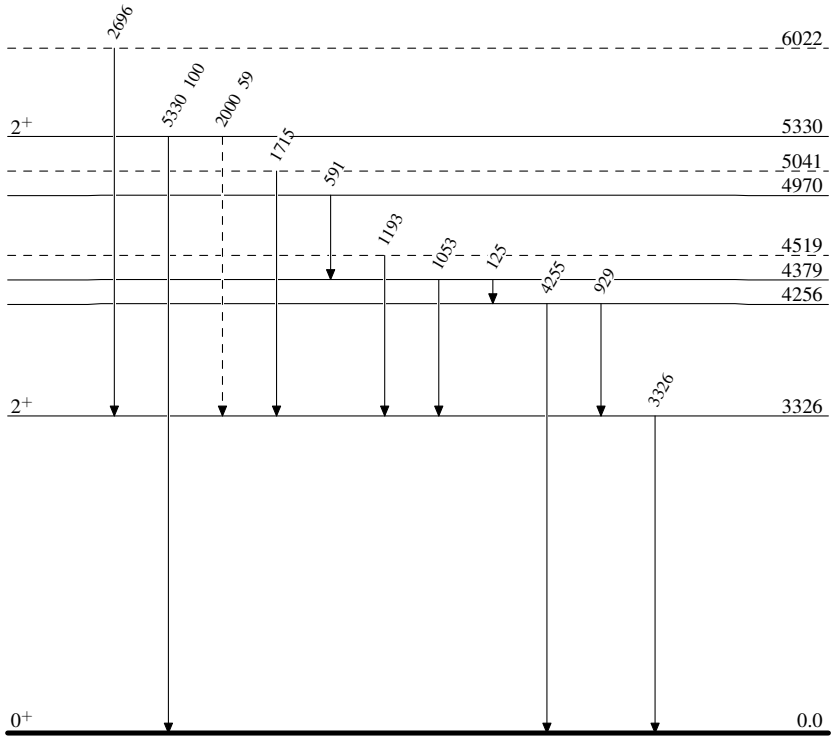
Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{34}_{14}Si_{20}$