^{2}H(^{34}Si,^{34}Si′γ) 2003Iw02

History

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

E=38.4 MeV/nucleon. Measured Eγ, Iγ, γγ, γ(^{34}Si) coin using liquid deuterium target, an array of 68 NaI(Tl) detectors, and four Si counter ΔE-E telescopes, each comprised of four ion-implanted Si detectors, in conjunction with two plastic scintillators and a PPAC for time-of-flight information.

^{34}Si Levels

E(level)	J^π
0.0	0^+
3326	2^+
4256	
4379	
4519?	
4970	
5041?	
6022?	

γ(^{34}Si)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
125.4		4379		4256		E_γ: from Adopted Gammas.
591	4.1 *5*	4970		4379		
930	26.2 *7*	4256		3326	2^+	
1053		4379		3326	2^+	
1193‡	4.9 *7*	4519?		3326	2^+	
x1480	2.0 *8*					E_γ: this γ was not seen in coin with 3326γ. It may possibly be a candidate for populating excited 0^+ state from 3326, 2^+ level but sufficient evidence is lacking (2003Iw02).
1715‡	15.8 *9*	5041?		3326	2^+	
2696‡	14.7 *13*	6022?		3326	2^+	
3326	100.0	3326	2^+	0.0	0^+	
4255	14.0 *8*	4256		0.0	0^+	I_γ: intensity is too high by a factor of ≈2 as compared to value in two other datasets and in Adopted Gammas.

† Doppler corrected values, no uncertainties are given by the authors, but are expected to be about 1%.

‡ This γ in coin with 3326γ. This indicates that the possible existence of the second 0^+ state at 2133 keV, as suggested by 2001Nu01 is unlikely.

x γ ray not placed in level scheme.

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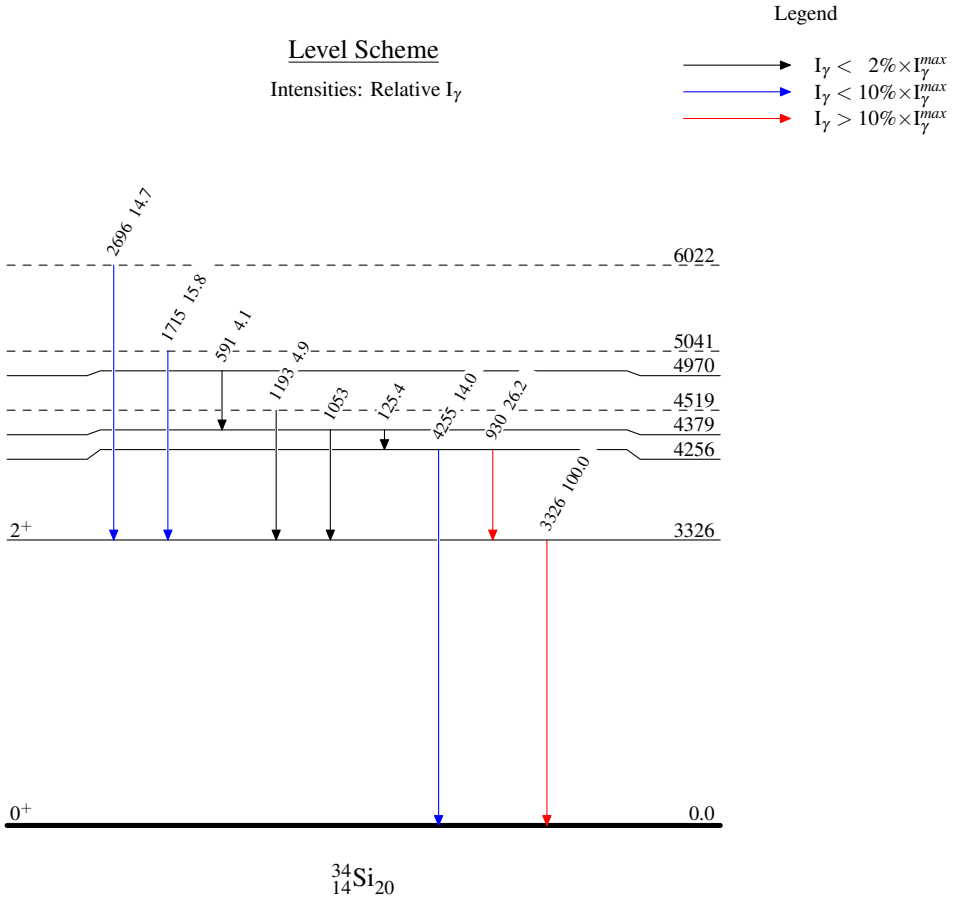
Level Scheme

Intensities: Relative I_γ



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