^{160}Gd(d,d′) 1967Bl05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 176, 1 (2021)	1-May-2021

Additional information 1.
Mass separated targets, E(d)=12 MeV, magnetic spectrograph resolution≈8 keV. Measured σ(E(d′),θ), θ=90° and 125°.
Other inelastic scattering measurements: 1966El07 measured σ(d′) in ^{160}Gd(d,d′) at θ=125°.

^{160}Gd Levels

1967Bl05 deduce B(EL) values from dσ/dΩ(90°) by assuming that dσ/dΩ(E=0)=1200×B(E2) and dσ/dΩ(E=0)=1720×B(E3).
The value of R listed with several ^{160}Gd levels represents the ratio of the 90°/125° cross sections as reported by 1967Bl05.
1967Bl05 state that a value of R≈1.4 is indicative of an E3 excitation and R≈2.1 for an E2 transition, while ratios <1 usually indicate multiple excitation.

E(level)	J^π[‡]	dσ/dΩ(μb/sr)[†]	Comments
0[#]	0^+	45200	R=4.73.
75[#]	2^+	594	R=2.34.
249[#]	4^+	198	R=1.37.
514[#]	6^+	20	R=0.62.
946?			
988[@]	2^+	82	R=3.58.
1016?			
1070	4^+	7	R=2.40. J^π: assigned as (2^+) by 1967Bl05.
1148[@]	4^+	33	R=0.89.
1224[&]	1^-	3	R=0.47. J^π: assigned as (1^-) by 1967Bl05.
1289[&]	3^-	108	R=1.33.
1426[&]	5^-	6	J^π: assigned as (5^-) by 1967Bl05. R=0.44.
1462	(3^-)	30	R=1.45. J^π: assigned as 3^- by 1967Bl05.
1688	(3^-)	39	R=1.45. J^π: assigned as 3^- by 1967Bl05.
1973		5	R=0.92.
2063		21	R=1.42.
2141		19	R=1.35.

[†] Values at θ=90°.
[‡] From the Adopted Levels. Where these differ from those of 1967Bl05, this is pointed out.
[#] Band(A): ground-state rotational band.
[@] Band(B): γ-vibrational band.
[&] Band(C): $K^\pi=0^-$ octupole band.

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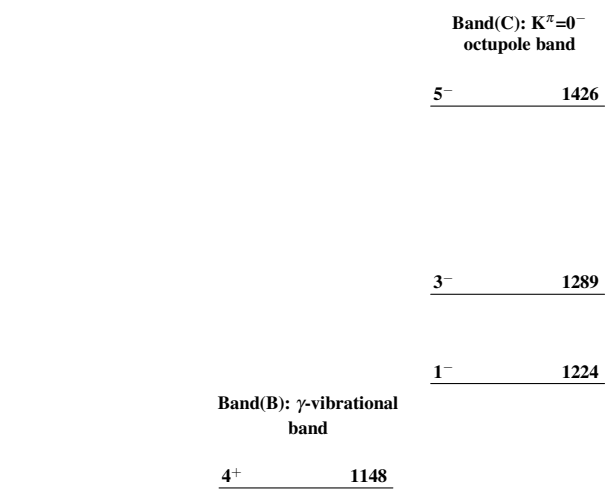

$^{160}_{64}Gd_{96}$