$^{64}\text{Ni}(e,e')$ **1988Br10**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 178,41 (2021).	12-Nov-2021

1988Br10: E=147.4, 200.0, 225.0, 356.0 MeV electron beams from the electron-scattering facility at NIKHEF-K. Scattered electrons were momentum-analyzed with a Q2D spectrometer (FWHM≈33 keV), momentum transfer range from 0.40 to 1.15 fm^{-1}. Measured form factors. Deduced levels, J, π, transition strengths. Comparisons with available data.

Others:

1980Wo02: momentum transfer region: 0.6 to 2.3 fm^{-1}. Charge distributions deduced from (e,e) data for isotones and isotopes.

1977Kh04, 1974Gu29, 1974Gu16, 1969Gu06: (e,e′) at E=150-200 MeV. Giant dipole and quadrupole resonances at 17 MeV and 24 MeV, respectively.

1970Kh02, 1969Kh07: (e,e) at 225 MeV, deduced charge distribution.

1970Fi10: (e,e) at E=300 MeV, deduced charge distribution.

1969Af01, 1968Af02: (e,e′) at 150, 225 MeV. Transition probabilities for first 2^+ and 3^- states.

Additional information 1.

^{64}Ni Levels

E(level)[†]	J^{π}[#]	$T_{1/2}$	L[‡]	B(EL)↑[@]	Comments
0	0^+				
1346 3	2^+		2	0.071 3	0.0744 20; 0.067. Other: 0.065 5 (1969Af01).
2277?			(2)	<0.0002	
2610 3	4^+		4	0.0018 4	0.00224 6; 0.00133.
2969 3					
3163 3	4^+		4	0.00058 14	0.00072 6; 0.000043.
3276 6	2^+		2	0.0025 1	0.0026 1; 0.0024.
3397 6					
3561 3	3^-		3	0.026 5	0.031 1; 0.021. Other: 0.0165 12 (1969Af01).
3848 3	5^-		5	0.00055 3	B(E5) is for Tassie model which gives a better fit.
4076 3	4^+		4	0.00030 7	0.00037 3; 0.00022.
4218 3	4^+		4	0.0011 3	0.00140 3; 0.00083.
4347 6					
4493 6	2^+		2	0.0014 2	0.0014 2; 0.0013.
4567 6	2^+		2	0.0013 2	0.0013 2; 0.0012.
4636 6	2^+		2	0.0030 5	0.0031 5; 0.0028.
4719 3	4^+		4	0.00040 10	0.00051 1; 0.00030.
4760 6					
4887 6					
4993 6	2^+		2	0.0030 2	0.0031 2; 0.0028.
5095 3	4^+		4	0.0013 3	0.00164 6; 0.00097.
5216 3	4^+		4	0.00053 14	0.00066 4; 0.00039.
5369 3	3^-		3	0.0020 4	0.0024 2; 0.0016.
5408 6	2^+		2	0.0036 5	0.0037 5; 0.0034.
5484 3	(3^-)		(3)	0.00067 13	0.00080 6; 0.00054.
5734 3	4^+		4	0.0022 5	0.00270 20; 0.00160.
5817 6	3^-		3	0.00073 14	0.00087 8; 0.00059.
6018 3	3^-		3	0.00118 23	0.00140 5; 0.00095.
6116 3	3^-		3	0.00118 23	0.00140 9; 0.00095.
13.2×10^3 3		4.8 MeV 3			E(level),$T_{1/2}$: energy and width for a giant quadrupole resonance (1974Gu16).

[†] Uncertainty=3 keV for strong and 6 keV for weak levels (1988Br10).

[‡] Deduced from comparison of measured form factors with those calculated from DWBA, using Tassie formalism (1988Br10).

[#] From L(e,e′) in 1988Br10. The assignments are the same in the Adopted Levels.

[@] Longitudinal reduced transition probability (1988Br10). Uncertainties are statistical. The values are averages of two models used

Continued on next page (footnotes at end of table)

^{64}Ni(e,e′)   **1988Br10 (continued)**

^{64}Ni Levels (continued)

in the analysis by 1988Br10 (Tassie model and phonon transition density function). Values from Tassie model as listed by 1988Br10 in their table I are listed under comments together with deduced values from phonon-density function, using multiplicative factors of 0.906 for L=2, 0.682 for L=3 and 0.594 for L=4 (1988Br10).