Coulomb excitation 2015So20

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

Additional information 1.

2015So20: beam=^{99}Rb at 2.85 *3* MeV/nucleon produced in U(p,F), E=1.4 GeV with UC_x target, and using High-Resolution Separator (HRS) at REX-ISOLDE-CERN facility. Measured Eγ, Iγ, excitation cross sections, (particle)γ- and γγ-coin. Deduced levels, J^π. Comparison with particle-rotor model calculations.

^{99}Rb Levels

E(level)[†]	J^π[‡]
0[#]	(3/2$^+$)
65[#] *1*	(5/2$^+$)
183[#] *1*	(7/2$^+$)
287[#] *1*	(9/2$^+$)
509[#] *1*	(11/2$^+$)

[†] From least-squares fit to Eγ values, assuming 1 keV uncertainty for each Eγ.
[‡] As proposed in 2015So20 based on band structure similar to that observed in ^{97}Rb.
[#] Band(A): Ground-state band. Transitional quadrupole moment Q_0=2.8 *+4−6*.

γ(^{99}Rb)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α[†]	Comments
65	164 *10*	65	(5/2$^+$)	0	(3/2$^+$)	[M1+E2]	2.6 *21*	α(K)=2.1 *17*; α(L)=0.41 *37*; α(M)=0.068 *60* α(N)=0.0068 *59*; α(O)=1.5×10^{-4} *12*
104	23 *11*	287	(9/2$^+$)	183	(7/2$^+$)	[M1+E2]	0.49 *36*	α(K)=0.41 *30*; α(L)=0.061 *48*; α(M)=0.0100 *79* α(N)=0.00105 *81*; α(O)=3.2×10^{-5} *22*
118	97 *6*	183	(7/2$^+$)	65	(5/2$^+$)	[M1+E2]	0.31 *22*	α(K)=0.27 *19*; α(L)=0.037 *28*; α(M)=0.0061 *47* α(N)=6.5×10^{-4} *48*; α(O)=2.1×10^{-5} *14*
183	9.0 *20*	183	(7/2$^+$)	0	(3/2$^+$)	[E2]	0.1054	α(K)=0.0916 *13*; α(L)=0.01165 *17*; α(M)=0.00192 *3* α(N)=0.000207 *3*; α(O)=7.33×10^{-6} *11*
222[‡]	17[‡] *8*	287	(9/2$^+$)	65	(5/2$^+$)	[E2]	0.0524	α(K)=0.0457 *7*; α(L)=0.00561 *8*; α(M)=0.000924 *13* α(N)=0.0001006 *14*; α(O)=3.72×10^{-6} *6*
222[‡]	17[‡] *8*	509	(11/2$^+$)	287	(9/2$^+$)	[M1+E2]	0.035 *18*	α(K)=0.031 *16*; α(L)=0.0036 *20*; α(M)=6.0×10^{-4} *33* α(N)=6.6×10^{-5} *35*; α(O)=2.5×10^{-6} *12*
326	5.0 *17*	509	(11/2$^+$)	183	(7/2$^+$)	[E2]	0.01364	α(K)=0.01199 *17*; α(L)=0.001394 *20*; α(M)=0.000230 *4* α(N)=2.54×10^{-5} *4*; α(O)=1.001×10^{-6} *14*

[†] Additional information 2.
[‡] Multiply placed with undivided intensity.

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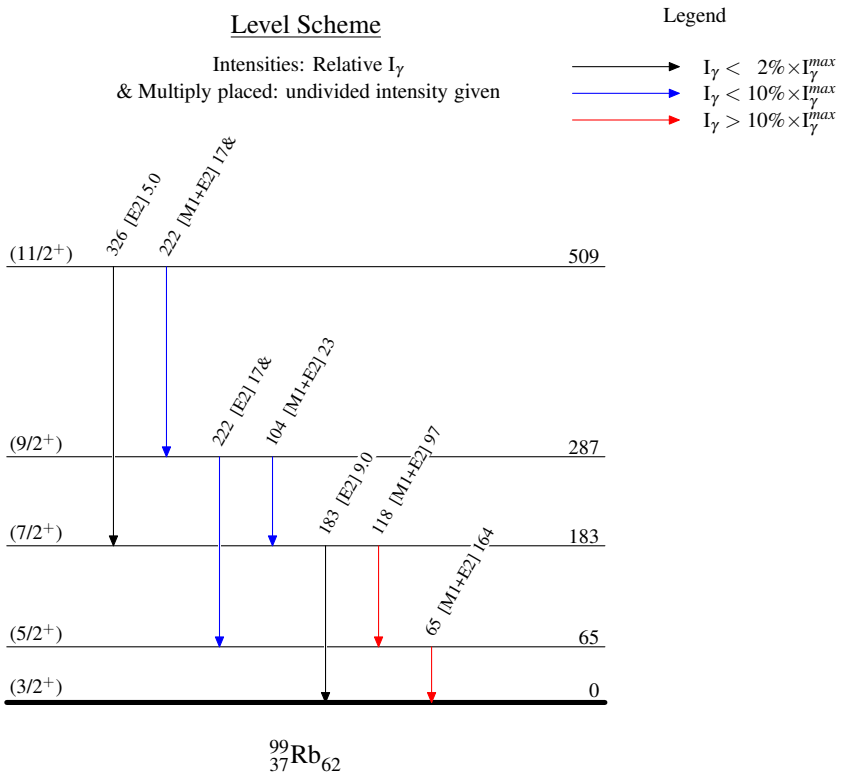

$^{99}_{37}Rb_{62}$

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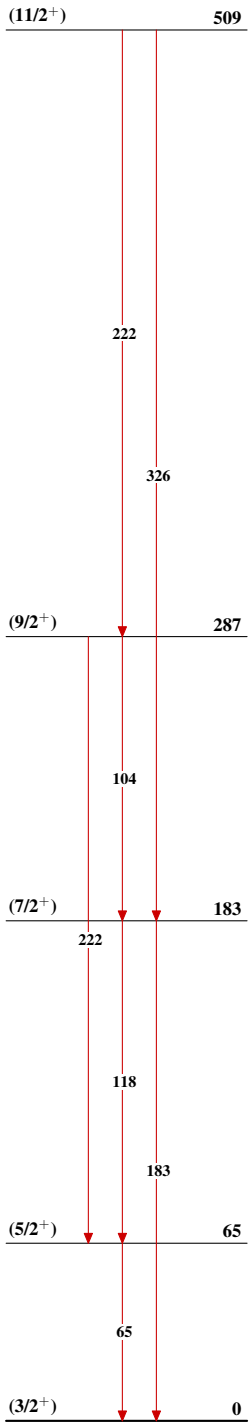
Band(A): Ground-state band



$^{99}_{37}Rb_{62}$