

^{124}Ba $Z = 56$ $N = 68$ adopted link ENSDF link

Based on ensdf_240402 (Apr 2024), and mass evaluation from 2020

BE = 1036.122 (0.012) MeV

Qbeta+ = 2.651 (0.015) MeV

	Energy T	J+		J-		J-other		T1/2

S-alpha=	-0.658	(0.017)	-----					

124BA 1	0.000	0+					1	11.0 M 5
124BA 2	0.230	2+					2	191 PS 8
124BA 3	0.652	4+					3	
124BA 4	0.873	2+					4	
124BA 5	0.898	0+					5	
124BA 6	1.071	0+					6	
124BA 7	1.162	(3+)					7	
124BA 8	1.228	6+					8	
124BA 9	1.325	4+					9	
124BA 10	1.353	(2+)					10	

124BA 11	1.357	0+					11	
124BA 12	1.672	(5+)					12	
124BA 13				1.722	(3-)		13	
124BA 14	1.858	(6+)					14	
124BA 15				1.913	5-		15	
124BA 16	1.923	8+					16	
124BA 17				2.034	(4-)		17	
124BA 18				2.262	(7)-		18	
124BA 19				2.267	5-		19	
124BA 20	2.285	(7+)					20	

124BA 21				2.359	(6)-		21	
124BA 22	2.479	(8+)					22	
124BA 23				2.498	(6-)		23	
124BA 24				2.647	(7-)		24	
124BA 25	2.688	(10+)					25	
124BA 26				2.691	(7-)		26	
124BA 27				2.705	(8)-		27	
124BA 28				2.722	(9)-		28	
124BA 29				2.907	(8-)		29	
124BA 30	2.975	(9+)					30	

124BA 31				3.096	(7-)		31	
124BA 32				3.110	(9-)		32	
124BA 33				3.157	(10-)		33	
124BA 34	3.177	(10+)					34	
124BA 35				3.287	(11)-		35	

124BA 36				3.336	(10-)		36	
124BA 37		3.436	(12+)				37	
124BA 38					3.592	(11-)	38	
124BA 39		3.692	(12+)				39	
124BA 40		3.694	(11+)				40	

124BA 41					3.773	(12-)	41	
124BA 42						3.829 (11)	42	
124BA 43					3.891	(12-)	43	
124BA 44					3.968	(13)-	44	
124BA 45		4.126	(14+)				45	
124BA 46					4.228	(13-)	46	
124BA 47		4.382	(11+)				47	
124BA 48		4.407	(14+)				48	
124BA 49					4.534	(14-)	49	
124BA 50		4.551	(12+)				50	

124BA 51					4.604	(14-)	51	
124BA 52					4.762	(15-)	52	
124BA 53		4.766	(13+)				53	
124BA 54		4.892	(16+)				54	
124BA 55					5.010	(15-)	55	
124BA 56		5.027	(14+)				56	
124BA 57		5.216	(16+)				57	
124BA 58		5.329	(15+)				58	
S-p =		5.335	(0.017)	-----				
124BA 59					5.392	(16-)	59	
124BA 60					5.446	(16-)	60	

124BA 61					5.639	(17-)	61	
124BA 62		5.668	(16+)				62	
124BA 63		5.725	(17+)				63	
124BA 64		5.763	(18+)				64	
124BA 65					5.906	(17-)	65	
124BA 66		6.045	(17+)				66	
124BA 67		6.080	(18+)				67	
124BA 68		6.190	(18+)				68	
124BA 69					6.290	(18-)	69	
124BA 70					6.383	(18-)	70	

124BA 71		6.453	(18+)				71	
124BA 72					6.556	(19-)	72	
124BA 73		6.581	(19+)				73	
124BA 74						6.704 (18)	74	
124BA 75		6.711	(20+)				75	
124BA 76					6.871	(19-)	76	
124BA 77		6.897	(19+)				77	
124BA 78		6.999	(20+)				78	
124BA 79		7.082	(20+)				79	
124BA 80					7.230	(20-)	80	

124BA 81		7.363	(20+)				81
124BA 82					7.366	(20-)	82
124BA 83		7.500	(21+)				83
124BA 84					7.503	(21-)	84
124BA 85		7.716	(22+)				85
124BA 86		7.864	(21+)				86
124BA 87					7.876	(21-)	87
124BA 88		7.983	(22+)				88
124BA 89		8.098	(22+)				89
124BA 90					8.262	(22-)	90
S-2p	=	8.313	(0.017)				
124BA 91		8.369	(22+)				91
124BA 92					8.408	(22-)	92
124BA 93		8.483	(23+)				93
124BA 94					8.512	(23-)	94
124BA 95		8.794	(24+)				95
124BA 96		8.904	(23+)				96
124BA 97					8.910	(23-)	97
124BA 98		9.053	(24+)				98
124BA 99		9.177	(24+)				99
124BA 100					9.380	(24-)	100
124BA 101		9.428	(24+)				101
124BA 102					9.525	(24-)	102
124BA 103		9.562	(25+)				103
124BA 104					9.613	(25-)	104
124BA 105						9.916 (25)	105
124BA 106		9.951	(26+)				106
124BA 107		9.975	(25+)				107
124BA 108					9.981	(25-)	108
124BA 109		10.220	(26+)				109
124BA 110		10.308	(26+)				110
124BA 111		10.520	(26+)				111
124BA 112					10.561	(26-)	112
124BA 113					10.704	(26-)	113
124BA 114		10.747	(27+)				114
124BA 115					10.812	(27-)	115
124BA 116						11.068 (27)	116
124BA 117		11.077	(27+)				117
124BA 118						11.115 (26)	118
124BA 119		11.182	(28+)				119
124BA 120		11.472	(28+)				120
S-n	=	11.506	(0.017)				
124BA 121		11.523	(28+)				121
124BA 122		11.649	(28+)				122
124BA 123					11.753	(28-)	123

124BA 124	12.030	(29+)				124
124BA 125			12.116	(29-)		125
124BA 126	12.242	(29+)				126
124BA 127					12.289 (29)	127
124BA 128	12.491	(30+)				128
124BA 129	12.733	(30+)				129
124BA 130	12.820	(30+)				130

124BA 131	12.860	(30+)				131
124BA 132			12.960	(30-)		132
124BA 133					13.348 (30)	133
124BA 134	13.406	31+				134
124BA 135	13.492	(31+)				135
124BA 136			13.517	(31-)		136
124BA 137					13.590 (31)	137
124BA 138	13.880	(32+)				138
124BA 139	14.058	(32+)				139
124BA 140			14.184	(32-)		140

124BA 141	14.191	(32+)				141
124BA 142					14.755 (32)	142
124BA 143	14.832	(33+)				143
124BA 144	14.881	(33+)				144
124BA 145					14.979 (33)	145
124BA 146			15.004	(33-)		146
124BA 147	15.335	(34+)				147
124BA 148	15.459	(34+)				148
124BA 149			15.475	(34-)		149
124BA 150	15.618	(34+)				150

124BA 151					16.029 (34)	151
124BA 152	16.280	(35+)				152
124BA 153	16.425	(35+)				153
124BA 154					16.461 (35)	154
124BA 155	16.775	(36+)				155
124BA 156	16.914	(36+)				156
124BA 157	16.944	(36+)				157
124BA 158	17.111	(36+)				158
124BA 159					17.435 (36)	159
124BA 160					18.041 (37)	160

124BA 161	18.045	(37+)				161
124BA 162	18.070	(38+)				162
124BA 163	18.144	(38+)				163
124BA 164	18.525	(38+)				164
124BA 165	18.649	(38+)				165
124BA 166					18.909 (38)	166
124BA 167					19.721 (39)	167

S-p = 5.335 (0.017) -----
S-n = 11.506 (0.017) -----
S-2p = 8.313 (0.017) -----
S-2n = 20.624 (0.031) -----
S-alpha= -0.658 (0.017) -----

S+p = -1.959 (0.029)
S+n = -8.651 (0.017)
S+2p = -6.309 (0.031)
S+2n = -19.723 (0.018)
S+alpha = 1.131 (0.031)

gap p = 3.376 (0.034)
gap n = 2.856 (0.024)
gap 2p = 2.004 (0.035)
gap 2n = 0.901 (0.035)
gap alpha = 0.473 (0.035)