

^{27}Al $Z = 13$ $N = 14$ [link to full NNDC output](#)

Based on ENSDF from Dec 2018, and mass evaluation from 2016

BE = 224.952 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
27AL 1	0.000	5/2+			1 STABLE
27AL 2	0.844	1/2+			2 35 PS 1
27AL 3	1.015	3/2+			3 1.49 PS 7
27AL 4				2.212 (7/2+)	4 26.6 FS 6
27AL 5	2.735	5/2+			5 8.9 FS 12
27AL 6	2.982	3/2+			6 3.90 FS 9
27AL 7				3.004 (9/2+)	7 59 FS 3
27AL 8	3.680	1/2+			8 5.4 FS 12
27AL 9	3.957	3/2+			9 2.5 FS 2
27AL 10			4.055 1/2-		10 7.3 FS 12
27AL 11	4.410	5/2+			11 1.2 FS 1
27AL 12				4.510 (11/2+)	12 222 FS 14
27AL 13				4.580 (7/2+)	13 5.3 FS 6
27AL 14	4.812	5/2+			14 1.5 FS 2
27AL 15			5.156 3/2-		15 2.4 FS 3
27AL 16	5.248	5/2+			16 4 FS LT
27AL 17				5.420 (9/2+)	17 14 FS LT
27AL 18				5.433 7/2	18 7 FS 2
27AL 19			5.438 5/2-		19 6 FS 4
27AL 20	5.500	11/2+			20 7 FS LT
27AL 21				5.551 5/2	21 2.6 FS 5
27AL 22	5.667	9/2+			22 11 FS 3
27AL 23	5.752	1/2+			23 10 FS LT
27AL 24			5.827 3/2-		24 21 FS LT
27AL 25				5.960 (7/2)	25 1.7 FS 12
27AL 26				6.081 3/2	26 3.3 FS 8
27AL 27				6.116 5/2	27
27AL 28			6.158 3/2-		28 14 FS LT
27AL 29				6.285 (7/2+)	29 4.9 FS 21
27AL 30				6.463 5/2	30 0.78 FS 8
27AL 31				6.477 (7/2)-	31 1.8 FS 3
27AL 32				6.512 9/2	32 9.7 FS 21
27AL 33	6.533	7/2+			33 2.1 FS 15
27AL 34			6.605 3/2-		34 10 FS LT
27AL 35			6.651 5/2-		35 0.55 FS 3
27AL 36	6.713	9/2+			36 7 FS LT
27AL 37				6.765 5/2	37 14 FS LT
27AL 38				6.776 (3/2)	38 10 FS LT

27AL	39		6.814	3/2	1/2+						39	10	FS	LT				
27AL	40								6.821	(3/2+,7/2+)		40						

27AL	41		6.948		11/2+							41	14	FS	LT			
27AL	42								6.993	(5/2 TO 9/2)		42						
27AL	43								6.996	(1/2,3/2)-		43						
27AL	44		7.071		1/2+							44						
27AL	45		7.174		9/2+							45	7	FS	LT			
27AL	46						7.227	9/2-				46	14	FS	LT			
27AL	47								7.280	(1/2+ TO 5/2+)		47						
27AL	48								7.289	(9/2,11/2,13/2)+		48	14	FS	LT			
27AL	49		7.400		11/2+							49	24	FS	10			
27AL	50		7.413		7/2+							50	0.50	FS	4			

27AL	51								7.443	(9/2+,13/2+)		51	7	FS	LT			
27AL	52						7.477	7/2-				52	0.68	FS	9			
27AL	53								7.550	(3/2+,5/2+)		53						
27AL	54		7.578		5/2+							54	0.35	FS	6			
27AL	55								7.660	(7/2+ TO 11/2+)		55	13	FS	4			
27AL	56								7.676	(3/2+,5/2+)		56						
27AL	57								7.679	(7/2,9/2+)		57						
27AL	58								7.721	5/2		58						
27AL	59								7.798	(3/2,5/2,7/2)		59						
27AL	60								7.806	(7/2+,9/2+)		60	18	FS	4			

27AL	61		7.858	3/2	3/2+							61						
27AL	62								7.900	(5/2-,7/2-)		62						
27AL	63								7.935			63						
27AL	64								7.948	(9/2+,11/2+)		64						
27AL	65								7.997	9/2		65						
27AL	66								8.037	7/2		66	0.43	FS	3			
27AL	67								8.043	(5/2+ TO 9/2+)		67						
27AL	68								8.065	(3/2+,5/2+)		68	20	AS	6			
27AL	69								8.097	5/2		69						
27AL	70		8.130		1/2+							70						

27AL	71								8.136	5/2		71						
27AL	72						8.182	3/2-				72						
S-p	=		8.271	(0.000)		-----											
27AL	73								8.287	(5/2,9/2)		73						
27AL	74								8.324	(3/2,5/2)+		74						
27AL	75								8.361			75						
27AL	76								8.376	(3/2,5/2)+		76						
27AL	77								8.396	(11/2)		77						
27AL	78								8.408			78						
27AL	79								8.421	(3/2,5/2)+		79						
27AL	80								8.442	(7/2)		80	0.50	FS	10			

27AL	81		8.490		5/2+							81						
27AL	82								8.521	(1/2,3/2,5/2,7/2	82+)							

27AL 83				8.537	(5/2)	83		
27AL 84				8.553	(3/2)	84		
27AL 85				8.586	(7/2)	85		
27AL 86				8.598	(1/2,3/2)-	86	0.56 EV	4
27AL 87				8.675	(7/2,9/2+)	87		
27AL 88				8.693	(9/2,11/2,13/2)	88		
27AL 89				8.709		89	7.6 EV	6
27AL 90		8.717	1/2+			90		

27AL 91				8.732	(5/2,7/2)-	91	0.19 EV	3
27AL 92				8.754	(5/2)	92	1.05 EV	13
27AL 93				8.774	(5/2+)	93	3.7 EV	3
27AL 94				8.804		94		
27AL 95				8.825		95		
27AL 96				8.861		96		
27AL 97				8.897	(5/2+)	97	0.86 EV	17
27AL 98				8.905		98		
27AL 99				8.909	(1/2,3/2)-	99		
27AL 100				8.952	(5/2,9/2+)	100		

27AL 101				8.963	(3/2-)	101		
27AL 102				9.001		102		
27AL 103				9.051	(7/2-)	103		
27AL 104				9.052	(5/2+)	104		
27AL 105				9.058		105		
27AL 106		9.080	1/2+			106	240 EV	25
27AL 107				9.190	(3/2)	107		
27AL 108				9.216	(3/2-)	108		
27AL 109				9.236	(1/2+)	109	13 EV	11
27AL 110				9.240	(5/2)	110		

27AL 111				9.272	3/2 (1/2+,3/2)	111		
27AL 112				9.274	7/2 (5/2-,7/2)	112		
27AL 113				9.277	(3/2-)	113	100 EV	30
27AL 114				9.299		114		
27AL 115				9.308	(5/2+)	115		
27AL 116				9.322		116		
27AL 117				9.359		117		
27AL 118				9.371		118		
27AL 119				9.390	(3/2+)	119		
27AL 120				9.401	(1/2+)	120	110 EV	50

27AL 121				9.427		121		
27AL 122				9.474	(7/2)	122		
27AL 123				9.488		123		
27AL 124				9.502		124		
27AL 125				9.512	(5/2)	125		
27AL 126				9.530		126		
27AL 127				9.552		127		
27AL 128				9.599		128	2.5 KEV	2

27AL 129			9.601	(3/2-)	129	12 EV	2
27AL 130			9.619		130		

27AL 131			9.628	(1/2-)	131	2.76 KEV	14
27AL 132			9.634	(5/2+)	132	18 EV	5
27AL 133			9.658		133		
27AL 134			9.665	(5/2+)	134	24 EV	8
27AL 135			9.665	(1/2-)	135	5.82 KEV	10
27AL 136			9.692		136		
27AL 137			9.716	(3/2+)	137		
27AL 138			9.742		138		
27AL 139			9.763	(5/2+)	139	18 EV	
27AL 140			9.796	(7/2+)	140	4 EV	3

27AL 141			9.822	(3/2+)	141	18 EV	
27AL 142			9.834	(1/2-)	142	3.0 KEV	
27AL 143			9.840	(5/2)	143	1.0 EV	2
27AL 144			9.847	(1/2+)	144	210 EV	
27AL 145			9.867		145		
27AL 146			9.883		146		
27AL 147			9.893		147		
27AL 148			9.922	(3/2-)	148	1.8 KEV	
27AL 149			9.930	(1/2-)	149	1.35 KEV	
27AL 150			9.941	(7/2)	150		

27AL 151			9.953		151		
27AL 152			9.955	(3/2)	152		
27AL 153			9.960	(5/2-)	153	8 EV	
27AL 154			9.963	(5/2+)	154	12 EV	
27AL 155			9.977	(5/2,7/2)+	155		
27AL 156			9.991	(7/2-)	156	10 EV	
27AL 157			10.000	(5/2)	157		
27AL 158			10.008		158		
27AL 159			10.024	(5/2+)	159	35 EV	
27AL 160			10.075		160		

27AL 161			10.090	(3/2-)	161	2.7 KEV	
S-alpha= 10.092 (0.000)-----							
27AL 162			10.093	(3/2+,5/2+)	162	0.47 KEV	
27AL 163			10.112	(5/2-,7/2-)	163	15 EV	
27AL 164			10.113	(1/2-)	164	40 EV	
27AL 165			10.121	(7/2+)	165		
27AL 166			10.135	(3/2-,5/2)	166		
27AL 167			10.148		167		
27AL 168			10.165	(5/2+)	168	14 EV	
27AL 169			10.209		169		
27AL 170			10.218	3/2 (3/2-)	170	40.9 KEV	

27AL 171			10.244	(3/2+)	171	0.13 KEV	
27AL 172			10.244	(1/2+)	172	70.4 KEV	

27AL 173			10.245	3/2 (7/2-)	173	75 EV
27AL 174			10.259	(5/2)	174	
27AL 175			10.281		175	
27AL 176			10.287	(3/2)	176	
27AL 177			10.307	(7/2)	177	
27AL 178			10.318	(1/2+)	178	
27AL 179			10.333	(3/2+)	179	1.1 KEV
27AL 180			10.334	(1/2-)	180	5.6 KEV

27AL 181			10.338	(1/2+)	181	1.3 KEV
27AL 182			10.340		182	
27AL 183			10.348	(3/2)	183	
27AL 184			10.360		184	
27AL 185			10.365	(9/2+)	185	
27AL 186			10.370	(5/2+)	186	45 EV
27AL 187			10.372	(3/2+)	187	450 EV
27AL 188			10.409	(5/2+)	188	37 EV
27AL 189			10.422		189	
27AL 190			10.448		190	

27AL 191			10.459	(1/2-)	191	0.070 KEV
27AL 192			10.478		192	
27AL 193			10.480	1/2 (7/2-)	193	0.65 KEV
27AL 194			10.509	1/2 (7/2-)	194	0.12 KEV
27AL 195			10.519		195	
27AL 196			10.528	(3/2-)	196	0.3 KEV
27AL 197			10.555	(5/2)	197	
27AL 198			10.558	(1/2-)	198	30 KEV
27AL 199			10.566	1/2 (3/2+)	199	0.14 KEV
27AL 200			10.588	1/ (3/2+)	200	1.4 KEV

27AL 201			10.593	(5/2-,7/2-)	201	10 EV
27AL 202			10.599	1/ (3/2+)	202	0.49 KEV
27AL 203			10.612	(1/2-)	203	10.2 KEV
27AL 204			10.626	(7/2-)	204	65 EV
27AL 205			10.630		205	
27AL 206			10.634	(1/2+)	206	0.90 KEV
27AL 207			10.648	(3/2+)	207	135 EV
27AL 208			10.675	(5/2+)	208	0.11 KEV
27AL 209			10.676		209	
27AL 210			10.692	(5/2-,7/2-)	210	15 EV

27AL 211			10.716	(3/2+)	211	0.18 KEV
27AL 212			10.723		212	0.070 KEV
27AL 213			10.737	(3/2-)	213	2.1 KEV
27AL 214			10.751	(9/2)	214	
27AL 215			10.768		215	
27AL 216			10.778		216	
27AL 217			10.781		217	
27AL 218			10.783		218	

27AL 219				10.791		219	
27AL 220				10.804	(1/2+)	220	0.8 KEV

27AL 221				10.833	(3/2+,5/2+)	221	0.34 KEV
27AL 222				10.835	(3/2+,5/2+)	222	0.8 KEV
27AL 223				10.836	(5/2-,7/2-)	223	0.6 KEV
27AL 224				10.838	(3/2-)	224	8.0 KEV
27AL 225				10.864	(5/2-,7/2-)	225	40 EV
27AL 226				10.871		226	
27AL 227				10.900		227	
27AL 228				10.911	(1/2-)	228	2.9 KEV
27AL 229				10.922	(3/2+,5/2+)	229	0.016 KEV
27AL 230				10.922		230	2.8 KEV 10

27AL 231				10.931	(5/2+)	231	1.2 KEV 8
27AL 232				10.939		232	
27AL 233				10.970		233	
27AL 234				10.973	(5/2+)	234	0.33 KEV
27AL 235				10.994		235	
27AL 236				11.003	(5/2-,7/2-)	236	0.008 KEV
27AL 237				11.012		237	0.035 KEV
27AL 238				11.072	(3/2+,5/2+)	238	0.26 KEV
27AL 239				11.075		239	
27AL 240				11.077		240	

27AL 241				11.096	(5/2-)	241	1.4 KEV
27AL 242				11.101	(3/2-)	242	5.5 KEV
27AL 243				11.126	(3/2+,5/2+)	243	0.015 KEV
27AL 244				11.138		244	
27AL 245				11.188		245	
27AL 246				11.702		246	

S-p = 8.271 (0.000)-----
S-n = 13.058 (0.000)-----
S-2p = 22.417 (0.001)-----
S-2n = 24.424 (0.000)-----
S-alpha= 10.092 (0.000)-----

S+p = -11.585 (0.000)
S+n = -7.725 (0.000)
S+2p = -14.334 (0.000)
S+2n = -17.154 (0.000)
S+alpha = -9.669 (0.000)

gap p = -3.314 (0.000)
gap n = 5.333 (0.000)
gap 2p = 8.083 (0.001)
gap 2n = 7.270 (0.000)
gap alpha = 0.423 (0.000)