

^{38}Ar $Z = 18$ $N = 20$ adopted link ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 327.343 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
38AR 1	0.000	0+			1 STABLE
38AR 2	2.167	2+			2 0.458 PS 21
38AR 3	3.377	0+			3 22.8 PS 15
38AR 4			3.810 3-		4 56 FS 14
38AR 5	3.937	2+			5 43 FS 5
38AR 6			4.480 4-		6 0.97 PS +25-20
38AR 7	4.565	2+			7 36 FS 3
38AR 8			4.586 5-		8 132 PS 4
38AR 9	4.709	0+			9 1.7 PS +21-7
38AR 10			4.877 3-		10 34 FS 8
38AR 11				5.084 (2)-	11 39 FS 10
38AR 12	5.157	2+			12 23 FS 7
38AR 13	5.349	4+			13 0.14 PS 4
38AR 14			5.513 3-		14 0.19 PS 6
38AR 15				5.552 1+,2+	15 11 FS 6
38AR 16	5.595	2+			16 60 FS 18
38AR 17			5.659 5-		17 29 FS 5
38AR 18			5.734 1-		18 4 FS LT
38AR 19			5.825 3-		19 0.24 PS +62-14
38AR 20				5.858 (2)-	20 15.2 FS 35
38AR 21				5.975 (0+:3-)	21 1.7 PS GT
38AR 22				6.042 (3-,4+)	22 58 FS 12
38AR 23				6.053 (4+)	23 71 FS 14
38AR 24			6.209 4-		24 74 FS 23
38AR 25				6.214 (2+)	25 5.4 FS 31
38AR 26	6.250	2+			26 111 FS GT
38AR 27	6.276	4+			27 81 FS 35
38AR 28				6.339 1-,2-,3-	28 13 FS LT
38AR 29			6.353 1-		29 3.6 FS 14
38AR 30	6.408	6+			30 1.0 PS 3
38AR 31				6.477 (0+:3-)	31 0.17 PS GT
38AR 32				6.485 (1-,2,3-)	32 29 FS 22
38AR 33				6.496 (2-,3-)	33 10 FS 4
38AR 34	6.520	2+			34
38AR 35			6.574 1-		35 3.5 FS LT
38AR 36			6.602 4-		36 12.5 FS 21
38AR 37				6.622 (1-,2,3-)	37 36 FS 12
38AR 38			6.674 5-		38 13.7 FS 35

38AR 39						6.682	(0,1,2)	39	53 FS	19
38AR 40				6.773		1-		40	2.8 FS	LT

38AR 41						6.824	(2+,3-)	41	17 FS	6
38AR 42						6.824	(0+:4+)	42		
38AR 43						6.846	(0-:4-)	43		
38AR 44						6.852	(1,2+)	44		
38AR 45						6.870	(2-,3,4+)	45		
38AR 46						6.904	2-,3-	46	6.2 FS	21
38AR 47						6.948	(2+)	47		
38AR 48						7.046	(3-,4+)	48		
38AR 49		7.060		0+				49		
38AR 50						7.070	(6)-	50	51 FS	14

38AR 51						7.101	(1-:4+)	51	12 FS	5
38AR 52						7.128	(1-:4+)	52		
38AR 53						7.181	(1,2+)	53		
38AR 54						7.192	(2-,3,4)	54		

S-alpha= 7.208 (0.000)-----										
38AR 55						7.234	(1-:4+)	55		
38AR 56						7.236	(2+)	56		
38AR 57		7.288		6+				57	27 FS	13
38AR 58						7.290	(3-,4+)	58	55 FS	GT
38AR 59						7.334	(1-:4+)	59		
38AR 60						7.350	(3-,4+)	60		

38AR 61						7.365		61		
38AR 62						7.370	(1+)	62		
38AR 63						7.376	(2+,3,4+)	63		
38AR 64						7.431	(2-,3,4+)	64	13 FS	8
38AR 65						7.452	(1-:4+)	65		
38AR 66						7.485	(3-,4+)	66		
38AR 67						7.491	(6+)	67		
38AR 68						7.497	(3,4,5-)	68		
38AR 69				7.508		7-		69	42 FS	GE
38AR 70						7.528	(3-:7-)	70		

38AR 71						7.539	(3,4,5)	71	43 FS	24
38AR 72						7.628	(1,2+)	72		
38AR 73						7.648	(1,2+)	73		
38AR 74						7.663	(2+:6+)	74		
38AR 75						7.667	(3-:7-)	75		
38AR 76						7.683	(3-,4+)	76	10 FS	6
38AR 77						7.702	(1+)	77		
38AR 78						7.786	(2-:6-)	78		
38AR 79						7.828	(1-:5-)	79		
38AR 80						7.857	(1-,2+)	80		

38AR 81						7.859	(6)	81		
38AR 82						7.893	(1+,2+)	82	3.5 FS	LT

38AR 83						7.899	(3-:7-)	83
38AR 84						7.911	(3-,4+)	84
38AR 85						7.992	(1-,2,3-)	85 4 FS LT
38AR 86						8.068	(3-,4+)	86
38AR 87		8.077	7+					87 0.11 PS 3
38AR 88						8.106	(0+:4+)	88
38AR 89						8.124	(3-:6+)	89
38AR 90						8.125	(6-)	90

38AR 91						8.181	(3-,4+)	91
38AR 92						8.215	(3-:7-)	92
38AR 93						8.233	(1-)	93
38AR 94						8.261	(3-:6-)	94
38AR 95						8.311	(1+)	95
38AR 96						8.353	(1,2+)	96
38AR 97						8.391	(2+)	97
38AR 98						8.417	(3-:7-)	98
38AR 99						8.481	(3-:6-)	99
38AR 100						8.491	(6-)	100

38AR 101						8.517	(1,2+)	101
38AR 102						8.520	(3-:6-)	102
38AR 103		8.570	8+					103 0.6 PS LT
38AR 104						8.595	(3-:7-)	104
38AR 105						8.650	(3-:6+)	105
38AR 106		8.668	2+					106
38AR 107						8.783	(3-:7-)	107
38AR 108						8.789	(4-:7-)	108
38AR 109						8.800	(2-:6-)	109 3.5 FS LT
38AR 110						8.809	(4+:8+)	110

38AR 111						8.828	(3-:7-)	111
38AR 112						8.875	(3-:6-)	112
38AR 113						8.944	(4+:7-)	113
38AR 114						8.956	(4-:7-)	114
38AR 115				8.973	7-			115 28 FS LT
38AR 116						8.998	(4+,5,6-)	116
38AR 117						9.072	(4-,5,6+)	117
38AR 118						9.077	(1-:5-)	118
38AR 119						9.087	(3-:7-)	119
38AR 120						9.100	(1,2+)	120

38AR 121						9.158	(0+:4+)	121
38AR 122						9.170	(3-:6-)	122
38AR 123						9.199	(4-:8-)	123
38AR 124						9.204	(0+:4+)	124
38AR 125						9.260	(0+:4+)	125
38AR 126						9.293	(3-:7-)	126
38AR 127						9.300	(0+:4+)	127
38AR 128						9.330	(4+:8+)	128

38AR 129		9.339		8+								129		73 FS	17
38AR 130								9.350		(7-)		130			

38AR 131								9.374		(3-:7-)		131			
38AR 132								9.431		(1+)		132			
38AR 133								9.437		(3-:7-)		133			
38AR 134								9.460		(3-:7-)		134			
38AR 135		9.535		2+								135			
38AR 136								9.537		8(+)		136			
38AR 137						9.597		1-				137			
38AR 138								9.644		(5-:9-)		138			
38AR 139								9.645		(1-)		139			
38AR 140								9.647		(2-:6-)		140			

38AR 141								9.655		(3-:7-)		141			
38AR 142								9.669		(3-:7-)		142			
38AR 143						9.689		1-				143			
38AR 144		9.720		2+								144			
38AR 145						9.797		3-				145			
38AR 146						9.811		1-				146			
38AR 147								9.829		(4-:8-)		147			
38AR 148		9.894		2+								148			
38AR 149						9.917		1-				149		12 FS	10
38AR 150								9.923		(3-,4+)		150			

38AR 151								9.934		(9+)		151			
38AR 152		9.951		2+								152			
38AR 153						9.996		1-				153			

S-p = 10.242 (0.000)-----
 S-n = 11.838 (0.000)-----
 S-2p = 18.629 (0.000)-----
 S-2n = 20.626 (0.000)-----
 S-alpha= 7.208 (0.000)-----

S+p = -6.381 (0.000)
 S+n = -6.599 (0.005)
 S+2p = -14.710 (0.000)
 S+2n = -16.468 (0.000)
 S+alpha = -6.257 (0.000)

gap p = 3.861 (0.000)
 gap n = 5.240 (0.005)
 gap 2p = 3.919 (0.000)
 gap 2n = 4.158 (0.000)
 gap alpha = 0.951 (0.000)