

^{39}Ar $Z = 18$ $N = 21$ adopted link ENSDF link

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

BE = 333.941 (0.005) MeV

Qbeta- = 0.565 (0.005) MeV

	Energy T	J+	J-	J-other	T1/2
39AR 1			0.000	7/2-	1 268 Y 8
39AR 2			1.267	3/2-	2 0.5 NS LT
39AR 3	1.518	3/2+			3 0.95 NS 5
39AR 4			2.093	5/2-	4 35 FS LT
39AR 5				2.342 (5/2-,7/2,9/2-)	5 118 FS 35
39AR 6	2.358	1/2+			6 0.42 PS GT
39AR 7			2.433	3/2-	7 0.69 PS 28
39AR 8			2.481	7/2-	8 0.35 PS 15
39AR 9				2.503 (5/2)+	9 1.0 PS 4
39AR 10				2.524 (5/2-,7/2,9/2-)	10 0.23 PS 9
39AR 11			2.632	3/2-	11 0.7 PS +10-4
39AR 12			2.651	11/2-	12 0.7 PS 2
39AR 13			2.756	5/2-	13 0.12 PS 5
39AR 14	2.830	1/2+			14 0.69 PS GT
39AR 15				2.950 (3/2+,5/2)	15 0.30 PS +28-14
39AR 16				3.062 5/2-,7/2-	16 0.10 PS 4
39AR 17				3.090 (3/2-,5/2)	17
39AR 18				3.160 5/2-,7/2-	18 1.4 PS +14-6
39AR 19				3.210	19
39AR 20			3.266	3/2-	20 48 FS LT
39AR 21	3.287	1/2+			21 0.25 PS +28-12
39AR 22	3.361	5/2+			22 0.08 PS 6
39AR 23				3.381 3/2+,5/2+	23
39AR 24				3.448 (11/2:17/2)+	24
39AR 25				3.524	25
39AR 26			3.563	3/2-	26 45 FS LT
39AR 27				3.625 1/2-,3/2-	27
39AR 28				3.682	28
39AR 29				3.740	29
39AR 30				3.836	30
39AR 31				3.890 (5/2)+	31
39AR 32				3.958	32
39AR 33				3.992 (13/2)+	33 0.8 PS 2
39AR 34				4.040	34
39AR 35				4.120	35
39AR 36				4.178 1/2-,3/2-	36
39AR 37			4.255	7/2-	37

39AR 38				4.332		38
39AR 39				4.375	1/2-, 3/2-	39
39AR 40				4.398		40

39AR 41				4.473	3/2+, 5/2+	41
39AR 42				4.504		42
39AR 43				4.530	(3/2)+	43
39AR 44				4.543	(15/2)+	44 1.1 PS 2
39AR 45				4.572		45
39AR 46				4.638		46
39AR 47				4.710		47
39AR 48				4.816	(3/2)+	48
39AR 49				4.911	(1/2-, 3/2, 5/2+	49)
39AR 50				4.927	(11/2, 13/2)+	50

39AR 51				4.991	(11/2:17/2)+	51
39AR 52				5.005	1/2-, 3/2-	52
39AR 53				5.159	5/2-, 7/2-	53
39AR 54				5.198		54
39AR 55				5.245	(11/2, 13/2)+	55
39AR 56				5.320	1/2-, 3/2-	56
39AR 57				5.385		57
39AR 58	5.422	1/2+				58
39AR 59				5.525	5/2-, 7/2-	59
39AR 60				5.536	(17/2)+	60 0.7 PS LT

39AR 61				5.602		61
39AR 62				5.670	1/2-, 3/2-	62
39AR 63				5.742		63
39AR 64				5.811	(11/2:17/2)+	64
39AR 65				5.821	1/2-, 3/2-	65
39AR 66				5.926	1/2-, 3/2-	66
39AR 67				5.946		67
39AR 68				6.057	5/2-, 7/2-	68
39AR 69				6.120	1/2-, 3/2-	69
39AR 70				6.230	(11/2, 13/2)+	70

39AR 71				6.278	5/2-, 7/2-	71
39AR 72				6.317		72
39AR 73				6.385	5/2-, 7/2-	73
39AR 74				6.490	5/2-, 7/2-	74
39AR 75				6.591		75
S-n =	6.599	(0.005)	-----			
39AR 76				6.637		76
39AR 77				6.688		77
39AR 78				6.759		78
39AR 79				6.789	(1/2, 5/2)-	79
39AR 80				6.820		80

S-alpha=	6.821	(0.005)	-----			

39AR 81				6.874		81
39AR 82				6.996	(1/2,5/2)-	82
39AR 83				7.073	(1/2,5/2)-	83
39AR 84				7.137	(1/2,5/2)-	84
39AR 85				7.222	(5/2)-	85
39AR 86				7.288		86
39AR 87				7.356	(5/2)-	87
39AR 88				7.401	(5/2)-	88
39AR 89				7.465	(5/2)-	89
39AR 90				7.561	(5/2)-	90

39AR 91				7.639	(5/2)-	91
39AR 92				7.729	(5/2)-	92
39AR 93				7.741		93
39AR 94				7.806		94
39AR 95				7.925		95
39AR 96				8.042		96
39AR 97				8.147		97
39AR 98				8.174		98
39AR 99				8.276		99
39AR 100				8.300		100

39AR 101				8.395		101
39AR 102				8.532		102
39AR 103				8.638		103
39AR 104				8.820		104
39AR 105				8.902		105
39AR 106				9.002		106
39AR 107				9.075	5/2 3/2+,5/2+	107
39AR 108				9.239		108
39AR 109		9.463 5/2 1/2+				109
39AR 110				9.858		110

S-p = 10.733 (0.005)-----
S-n = 6.599 (0.005)-----
S-2p = 20.924 (0.005)-----
S-2n = 18.437 (0.005)-----
S-alpha= 6.821 (0.005)-----

S+p = -7.582 (0.005)
S+n = -9.869 (0.005)
S+2p = -16.474 (0.005)
S+2n = -15.968 (0.005)
S+alpha = -7.592 (0.005)

gap p = 3.151 (0.007)
gap n = -3.270 (0.007)
gap 2p = 4.450 (0.007)

gap 2n = 2.469 (0.007)
gap alpha = -0.771 (0.007)