

^{82}Zr $Z = 40$ $N = 42$ adopted link ENSDF link

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

BE = 694.168 (0.002) MeV

Qbeta+ = 4.450 (0.006) MeV

	Energy T	J+	J-	J-other	T1/2
82ZR 1	0.000	0+			1 32 S 5
82ZR 2	0.407	2+			2 22 PS 9
82ZR 3	1.041	4+			3 3.3 PS 7
82ZR 4				1.061	4
82ZR 5				1.449 (3)+	5
82ZR 6	1.888	6+			6 0.5 PS 2
82ZR 7				2.057	7
82ZR 8				2.175 (5)+	8
82ZR 9				2.692 (4-)	9
82ZR 10				2.792 5(-)	10
82ZR 11			2.857 5-		11
S-alpha=	2.865 (0.008)				
82ZR 12	2.909	8+			12 0.22 PS 6
82ZR 13				3.068 (7)+	13
82ZR 14			3.128 6-		14
82ZR 15				3.287 (6-)	15
82ZR 16				3.481 7(-)	16
82ZR 17			3.507 7-		17
82ZR 18			3.947 8-		18
82ZR 19				4.023 (8-)	19
82ZR 20	4.037	10+			20 0.16 PS 4
82ZR 21				4.086 (9)+	21
82ZR 22				4.348 9(-)	22
82ZR 23				4.444 (9-)	23
82ZR 24			4.908 10-		24
82ZR 25				4.973 (10-)	25
S-p =	5.190 (0.006)				
82ZR 26				5.195 (11)+	26
82ZR 27	5.213	12+			27 0.13 PS 4
82ZR 28				5.361 11(-)	28
82ZR 29				5.550 (11-)	29
82ZR 30			5.989 12-		30
82ZR 31				6.100 (12-)	31
82ZR 32				6.406 (13+)	32
82ZR 33	6.491	14+			33 0.27 PS LT
82ZR 34				6.536 13(-)	34
82ZR 35			7.042 14-		35

82ZR 36	|		|		|	7.345	(14-)	36
82ZR 37	|		|		|	7.680	(15)+	37
82ZR 38	|		|		|	7.688	(15-)	38
82ZR 39	|		|		|	7.750	(15+)	39
82ZR 40	|	7.860	|	16+	|			40

S-2p	=	7.881	(	0.004)	-----			
82ZR 41	|		|		|	7.908	(15-)	41
82ZR 42	|		|		|	7.992	(16+)	42
82ZR 43	|		|	8.114	|	16-		43
82ZR 44	|		|		|	9.047	(17-)	44
82ZR 45	|		|		|	9.070	(17)+	45
82ZR 46	|	9.112	|	18+	|			46
82ZR 47	|		|		|	9.183	(17)+	47
82ZR 48	|		|		|	9.235	(17-)	48
82ZR 49	|		|		|	9.339	(18-)	49
82ZR 50	|		|		|	9.453	(18+)	50

S-p	=	5.190	(	0.006)	-----			
S-n	=	14.161	(	0.092)	-----			
S-2p	=	7.881	(	0.004)	-----			
S-2n	=	24.968	(	0.320)	-----			
S-alpha	=	2.865	(	0.008)	-----			
S+p	=	-1.288	(	0.162)				
S+n	=	-10.369	(	0.007)				
S+2p	=	-5.132	(	0.336)				
S+2n	=	-23.950	(	0.006)				
S+alpha	=	-2.922	(	0.003)				
gap p	=	3.902	(	0.162)				
gap n	=	3.792	(	0.092)				
gap 2p	=	2.749	(	0.336)				
gap 2n	=	1.018	(	0.320)				
gap alpha	=	-0.057	(	0.008)				