

^{129}Pr $Z = 59$ $N = 70$ adopted link ENSDF link

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

BE = 1064.815 (0.030) MeV

Qbeta+ = 6.514 (0.041) MeV

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

S-alpha=	-1.561 (0.040)				
129PR 1				0.000 (3/2+)	1 30 S 4
129PR 2				0.091 (5/2+)	2
129PR 3				0.242 (7/2+)	3
129PR 4				0.327 (5/2+,7/2+)	4
129PR 5				0.383 (11/2-)	5
129PR 6				0.418 (9/2+)	6
129PR 7				0.438	7
129PR 8				0.453 (1/2+,3/2+)	8
129PR 9				0.462	9
129PR 10				0.471 (7/2+,9/2+)	10

129PR 11				0.497 (9/2+)	11 60 NS AP
129PR 12				0.517 (7/2-)	12
129PR 13				0.569 (+)	13
129PR 14				0.580 (+)	14
129PR 15				0.620 (15/2-)	15
129PR 16				0.632 (11/2+)	16
129PR 17				0.682 (11/2+)	17
129PR 18				0.725 (7/2+,9/2+,11/2)	18+)
129PR 19				0.729 (9/2-)	19
129PR 20				0.889 (13/2+)	20

129PR 21				0.901 (13/2+)	21
129PR 22				0.975	22
129PR 23				0.986 (5/2+,7/2+)	23
129PR 24				1.035 (19/2-)	24
129PR 25				1.119 (15/2+)	25
129PR 26				1.147 (15/2+)	26
129PR 27				1.369 (17/2+)	27
129PR 28				1.493 (17/2+)	28

S-p	= 1.529 (0.041)				
129PR 29				1.595 (23/2-)	29
129PR 30				1.637 (19/2+)	30

129PR 31				1.744 (19/2+)	31
129PR 32				1.922 (21/2+)	32
129PR 33				2.153 (21/2+)	33
129PR 34				2.225 (23/2+)	34
129PR 35				2.267 (27/2-)	35

129PR 36				2.311	(23/2+)	36
129PR 37				2.546	(25/2+)	37
129PR 38				2.585	(25/2+)	38
129PR 39				2.759	(27/2+)	39
129PR 40				2.885	(27/2+)	40

129PR 41				3.020	(31/2-)	41
129PR 42				3.076	(29/2+)	42
129PR 43				3.238	(29/2+)	43
129PR 44				3.311	(31/2+)	44
129PR 45				3.612	(31/2+)	45
129PR 46				3.695	(33/2+)	46
129PR 47				3.830	(35/2-)	47
129PR 48				3.998	(35/2+)	48
129PR 49				4.013	(33/2+)	49
129PR 50				4.457	(37/2+)	50

129PR 51				4.701	(39/2-)	51
129PR 52				4.821	(39/2+)	52
129PR 53				5.348	(41/2+)	53
129PR 54				5.654	(43/2-)	54
129PR 55				5.771	(43/2+)	55
129PR 56				6.349	(45/2+)	56
S-2p	=	6.455	(0.040)	-----		
129PR 57				6.704	(47/2-)	57
129PR 58				7.466	(49/2+)	58
129PR 59				7.858	(51/2-)	59

S-p = 1.529 (0.041)-----
S-n = 11.514 (0.042)-----
S-2p = 6.455 (0.040)-----
S-2n = 21.383 (0.256)-----
S-alpha= -1.561 (0.040)-----

S+p = -4.112 (0.041)
S+n = -9.473 (0.071)
S+2p = -4.538 (0.264)
S+2n = -20.670 (0.056)
S+alpha = 1.941 (0.058)

gap p = -2.583 (0.058)
gap n = 2.041 (0.082)
gap 2p = 1.918 (0.267)
gap 2n = 0.714 (0.262)
gap alpha = 0.380 (0.071)