

$^{230}\text{Pa}$        $Z = 91$        $N = 139$       adopted link      ENSDF link

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

BE      =    1753.036 ( 0.003) MeV  
 Qbeta- =      0.558 ( 0.005) MeV  
 Qbeta+ =      1.311 ( 0.003) MeV

	Energy T	J+	J-	J-other	T1/2
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S-alpha=	-5.439 ( 0.004)				
230PA 1			0.000 2-		1 17.4 D 5
230PA 2				0.028 (3-)	2
230PA 3				0.048 (2-)	3
230PA 4				0.066 (4-)	4
230PA 5				0.069 (3-)	5
230PA 6				0.104 (4-)	6
230PA 7				0.112 (5-)	7
230PA 8				0.146 (5-)	8
230PA 9				0.157 (3-)	9
230PA 10				0.170 (6-)	10
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230PA 11				0.199 (4-)	11
230PA 12				0.202 (0-)	12
230PA 13				0.223	13
230PA 14				0.237 (2-)	14
230PA 15				0.247 (5-)	15
230PA 16				0.259 (1-)	16
230PA 17				0.284 (2-)	17
230PA 18				0.297 (1-)	18
230PA 19				0.312 (6-)	19
230PA 20				0.312 (3-)	20
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230PA 21				0.322 (4-)	21
230PA 22				0.341 (1-)	22
230PA 23				0.350 (4-)	23
230PA 24				0.357 (3-)	24
230PA 25				0.373 (2-)	25
230PA 26				0.401 (5-)	26
230PA 27				0.409	27
230PA 28				0.423 (3-)	28
230PA 29				0.437	29
230PA 30				0.455 (6-)	30
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230PA 31				0.465 (5-)	31
230PA 32				0.465 (6-)	32
230PA 33				0.488 (4-)	33
230PA 34				0.488 (0+)	34
230PA 35				0.497	35

230PA 36				0.506		36
230PA 37				0.518	(2+)	37
230PA 38				0.532		38
230PA 39				0.538		39
230PA 40				0.559	(1+)	40
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230PA 41				0.580		41
230PA 42				0.594	(4+)	42
230PA 43				0.605		43
230PA 44				0.618	(3+)	44
230PA 45				0.634		45
230PA 46				0.641		46
230PA 47				0.662		47
230PA 48				0.689	(1+)	48
230PA 49				0.713	(2+)	49
230PA 50				0.735	(2+)	50
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230PA 51				0.747	(3+)	51
230PA 52				0.755		52
230PA 53				0.772	(3+)	53
230PA 54				0.795	(4+)	54
230PA 55				0.807		55
230PA 56				0.828	(4+)	56
230PA 57				0.865		57
230PA 58				0.873	(1+)	58
230PA 59				0.887	(2+)	59
230PA 60				0.906	(2+)	60
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230PA 61				0.921	(3+)	61
230PA 62				0.944		62
230PA 63				0.958	(3+)	63
230PA 64				0.969	(4+)	64
230PA 65				0.992		65
230PA 66				1.012		66
230PA 67				1.026	(4+)	67
230PA 68				1.026	(5+)	68
230PA 69				1.035	(3+)	69
230PA 70				1.057		70
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230PA 71				1.092	(4+)	71
230PA 72				1.112	(5+)	72
230PA 73				1.129		73
230PA 74				1.145		74
230PA 75				1.163	(5+)	75
230PA 76				1.173		76
230PA 77				1.195		77
230PA 78				1.211	(6+)	78
230PA 79				1.218		79
230PA 80				1.243		80
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230PA	81				1.256	81
230PA	82				1.318	82
230PA	83				1.336	83
230PA	84				1.349	84
230PA	85				1.361	85

S-p = 4.701 ( 0.004)-----  
 S-n = 5.795 ( 0.004)-----  
 S-2p = 11.299 ( 0.004)-----  
 S-2n = 12.893 ( 0.005)-----  
 S-alpha= -5.439 ( 0.004)-----

S+p = -5.656 ( 0.004)  
 S+n = -6.820 ( 0.004)  
 S+2p = -9.468 ( 0.003)  
 S+2n = -12.370 ( 0.008)  
 S+alpha = 5.356 ( 0.009)

gap p = -0.955 ( 0.006)  
 gap n = -1.026 ( 0.006)  
 gap 2p = 1.831 ( 0.005)  
 gap 2n = 0.523 ( 0.010)  
 gap alpha = -0.083 ( 0.010)