

^{60}Cu $Z = 29$ $N = 31$ adopted link ENSDF link

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

BE = 519.936 (0.002) MeV

Qbeta+ = 6.128 (0.002) MeV

	Energy T	J+	J-	J-other	T1/2
60CU 1	0.000	2+			1 23.7 M 4
60CU 2	0.062	1+			2 2.00 NS 10
60CU 3	0.287	2+			3
60CU 4				0.336 (2+)	4
60CU 5				0.364 (1+)	5
60CU 6				0.454 (3+)	6
60CU 7				0.558 (4+)	7
60CU 8				0.572	8
60CU 9				0.587 (3+)	9
60CU 10				0.600	10
60CU 11	0.670	1+			11
60CU 12				0.781 (3+)	12
60CU 13				0.904	13
60CU 14				0.915 (+)	14
60CU 15				0.947	15
60CU 16				0.975	16
60CU 17				1.008	17
60CU 18				1.251	18
60CU 19				1.333	19
60CU 20				1.368	20
60CU 21				1.422 (+)	21
60CU 22				1.427	22
60CU 23				1.492 (+)	23
60CU 24				1.505	24
60CU 25				1.604 (5+)	25
60CU 26				1.646	26
60CU 27				1.660	27
60CU 28				1.668	28
60CU 29				1.694 (+)	29
60CU 30				1.768	30
60CU 31				1.779 (5+)	31
60CU 32				1.793	32
60CU 33				1.878 (+)	33
60CU 34				1.918 (+)	34
60CU 35				1.981	35
60CU 36				2.027 (5+)	36
60CU 37				2.036	37

60CU 38				2.170	(+)	38
60CU 39				2.197	(6+)	39
60CU 40				2.231	(+)	40

60CU 41				2.246		41
60CU 42				2.286	(+)	42
60CU 43				2.350	(+)	43
60CU 44				2.474	(+)	44
60CU 45				2.519		45
60CU 46				2.525		46
60CU 47				2.536	(0+)	47
60CU 48				2.539		48
60CU 49				2.593		49
60CU 50				2.633		50

60CU 51				2.658		51
60CU 52				2.692	(6+)	52
60CU 53				2.726		53
60CU 54				2.790	(+)	54
60CU 55				2.817	(6)	55
60CU 56				2.888		56
60CU 57				2.915	(+)	57
60CU 58				3.001	(+)	58
60CU 59				3.044		59
60CU 60				3.067		60

60CU 61				3.094		61
60CU 62				3.156	(6-)	62
60CU 63				3.162	(+)	63
60CU 64				3.191	(7+)	64
60CU 65				3.282		65
60CU 66				3.315		66
60CU 67				3.344		67
60CU 68				3.355	(7-)	68
60CU 69				3.452		69
60CU 70				3.545		70

60CU 71				3.575		71
60CU 72				3.594	(+)	72
60CU 73				3.624		73
60CU 74				3.699	(+)	74
60CU 75				3.772	(7-)	75
60CU 76				3.837		76
60CU 77				3.874	(+)	77
60CU 78				3.877	(4+)	78
60CU 79				3.980		79
60CU 80				4.093		80

S-p =	4.477	(0.002)	-----		
60CU 81				4.479		81

60CU	82				4.521	(8-)	82
60CU	83				4.619		83
60CU	84				4.638		84
S-alpha= 4.730 (0.002)-----							
60CU	85				5.188	(9-)	85
60CU	86		5.649	10-			86
60CU	87				5.827		87
60CU	88				5.990	(9+)	88
60CU	89		6.095	11-			89
60CU	90				7.200		90

60CU	91		7.395	11+			91
60CU	92		8.133	13+			92
60CU	93				10.000		93

S-p = 4.477 (0.002)-----
 S-n = 10.058 (0.002)-----
 S-2p = 13.076 (0.002)-----
 S-2n = 22.820 (0.002)-----
 S-alpha= 4.730 (0.002)-----

S+p = -5.293 (0.016)
 S+n = -11.710 (0.002)
 S+2p = -8.220 (0.002)
 S+2n = -20.585 (0.002)
 S+alpha = -2.912 (0.002)

gap p = -0.815 (0.016)
 gap n = -1.652 (0.003)
 gap 2p = 4.856 (0.003)
 gap 2n = 2.235 (0.002)
 gap alpha = 1.817 (0.003)