

^{165}Tm $Z = 69$ $N = 96$ adopted link ENSDF link

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

BE = 1340.715 (0.002) MeV

Qbeta+ = 1.591 (0.002) MeV

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

S-alpha=	-1.841	(0.003)	-----		
165TM 1	0.000	1/2+			1 30.06 H 3
165TM 2	0.012	3/2+			2 0.75 NS 5
165TM 3	0.080	7/2+			3 80 US 3
165TM 4	0.130	5/2+			4 0.2 NS LE
165TM 5			0.158	1/2-	5
165TM 6	0.159	7/2+			6 322 PS 20
165TM 7			0.160	7/2-	7 9.0 US 5
165TM 8			0.182	5/2-	8
165TM 9	0.211	9/2+			9
165TM 10			0.252	9/2-	10

165TM 11			0.276	3/2-	11
165TM 12			0.294	9/2-	12
165TM 13	0.316	5/2+			13
165TM 14	0.362	9/2+			14
165TM 15	0.366	11/2+			15
165TM 16			0.369	11/2-	16
165TM 17	0.413	11/2+			17
165TM 18				0.416 (3/2+)	18
165TM 19	0.420	7/2+			19
165TM 20			0.450	7/2-	20

165TM 21				0.491 (5/2+)	21
165TM 22			0.497	13/2-	22
165TM 23			0.511	13/2-	23
165TM 24	0.545	13/2+			24
165TM 25	0.552	9/2+			25
165TM 26				0.592 (7/2+)	26
165TM 27			0.675	15/2-	27
165TM 28				0.688 (5/2+,3/2+)	28
165TM 29	0.689	13/2+			29
165TM 30			0.702	11/2-	30

165TM 31	0.707	11/2+			31
165TM 32				0.726 (9/2+)	32
165TM 33	0.746	15/2+			33
165TM 34	0.768	15/2+			34
165TM 35			0.796	17/2-	35
165TM 36				0.797	36

165TM	37						0.831	(9/2-)	37
165TM	38				0.866	17/2-			38
165TM	39						0.890		39
165TM	40		0.892	13/2+					40

165TM	41						0.917	(1/2+)	41
165TM	42						0.921	(5/2-, 7/2)	42
165TM	43		0.968	17/2+					43
165TM	44				0.969	11/2-			44
165TM	45						1.013		45
165TM	46				1.030	15/2-			46
165TM	47						1.037	(7/2-)	47
165TM	48				1.072	19/2-			48
165TM	49		1.090	15/2+					49
165TM	50		1.101	17/2+					50

165TM	51				1.185	21/2-			51
165TM	52						1.190		52
165TM	53		1.205	19/2+					53
165TM	54		1.215	19/2+					54
165TM	55				1.251	5/2-			55
165TM	56						1.281		56
165TM	57						1.290	(15/2-)	57
165TM	58						1.308	(7/2+)	58
165TM	59				1.308	21/2-			59
165TM	60						1.315		60

165TM	61		1.322	17/2+					61
165TM	62						1.326		62
165TM	63						1.338	(1/2+)	63
165TM	64						1.370		64
165TM	65				1.434	19/2-			65
165TM	66						1.443	(17/2-)	66
165TM	67						1.466		67
165TM	68		1.466	21/2+					68
165TM	69				1.550	23/2-			69
165TM	70		1.552	19/2+					70

165TM	71						1.565	7/2	71
165TM	72				1.582	7/2-			72
165TM	73		1.590	21/2+					73
165TM	74						1.595		74
165TM	75						1.615	(19/2-)	75
165TM	76						1.634	(17/2-)	76
165TM	77				1.659	25/2-			77
165TM	78		1.728	23/2+					78
165TM	79						1.741	(17/2+)	79
165TM	80		1.745	23/2+					80

165TM	81						1.754	(19/2-)	81

165TM 82						1.807	(21/2-)	82
165TM 83				1.827	25/2-			83
165TM 84		1.829	21/2+					84
165TM 85						1.847	(7/2-)	85
165TM 86						1.857	(19/2+)	86
165TM 87						1.899	(21/2-)	87
165TM 88				1.904	23/2-			88
165TM 89						1.990	(21/2+)	89
165TM 90		2.027	25/2+					90

165TM 91						2.032	(23/2-)	91
165TM 92						2.068	(23/2-)	92
165TM 93		2.079	23/2+					93
165TM 94				2.096	27/2-			94
165TM 95		2.136	25/2+					95
165TM 96						2.139	(23/2+)	96
165TM 97						2.195	(7/2)	97
165TM 98				2.210	29/2-			98
165TM 99						2.252	(25/2-)	99
165TM 100						2.257	(25/2-)	100

165TM 101						2.305	(25/2+)	101
165TM 102		2.305	27/2+					102
165TM 103		2.330	27/2+					103
165TM 104						2.379	(25/2+)	104
165TM 105				2.408	29/2-			105
165TM 106				2.427	27/2-			106
165TM 107						2.466	(27/2-)	107
165TM 108						2.489	(27/2+)	108
165TM 109						2.541	(27/2-)	109
165TM 110		2.621	29/2+					110

165TM 111		2.663	29/2+					111
165TM 112						2.671	(27/2+)	112
165TM 113						2.690	(29/2+)	113
165TM 114						2.692	(29/2-)	114
165TM 115				2.694	31/2-			115
165TM 116						2.771	(29/2-)	116
165TM 117				2.828	33/2-			117
165TM 118		2.859	31/2+					118
165TM 119		2.894	31/2+					119
165TM 120						2.908	(31/2+)	120

165TM 121						2.934	(31/2-)	121
165TM 122				2.999	31/2-			122
165TM 123				3.015	33/2-			123
165TM 124		3.099	33/2+					124
165TM 125						3.123	(31/2-)	125
165TM 126		3.127	33/2+					126
165TM 127						3.142	(33/2+)	127

165TM 128						3.193	(33/2-)	128
165TM 129				3.267	35/2-			129
165TM 130		3.325	35/2+					130

165TM 131						3.345	(33/2-)	131
165TM 132		3.374	35/2+					132
165TM 133						3.393	(35/2+)	133
165TM 134						3.465	(35/2-)	134
165TM 135				3.503	37/2-			135 0.180 PS 28
165TM 136				3.519	37/2-			136
165TM 137		3.582	37/2+					137
165TM 138				3.618	35/2-			138
165TM 139		3.622	37/2+					139
165TM 140						3.659	(37/2+)	140

165TM 141						3.739	(35/2-)	141
165TM 142						3.749	(37/2-)	142
165TM 143				3.766	39/2-			143
165TM 144		3.841	39/2+					144
165TM 145		3.905	39/2+					145
165TM 146						3.914	(37/2-)	146
165TM 147						3.941	(39/2+)	147
165TM 148				4.038	41/2-			148
165TM 149						4.046	(39/2-)	149
165TM 150		4.141	41/2+					150

165TM 151		4.187	41/2+					151
165TM 152				4.220	41/2-			152 0.152 PS 21
165TM 153						4.234	(41/2+)	153

S-p	=	4.276 (0.002)		-----				
165TM 154				4.276	39/2-			154
165TM 155				4.319	43/2-			155
165TM 156						4.353	(41/2-)	156
165TM 157		4.429	43/2+					157
165TM 158		4.511	43/2+					158
165TM 159						4.544	(43/2+)	159
165TM 160				4.634	45/2-			160

165TM 161						4.674	(43/2-)	161
165TM 162		4.775	45/2+					162 0.19 PS 4
165TM 163		4.827	45/2+					163
165TM 164						4.862	(45/2+)	164
165TM 165				4.944	47/2-			165
165TM 166				4.962	45/2-			166 0.104 PS 14
165TM 167						4.964	(43/2-)	167
165TM 168						5.003	(45/2-)	168
165TM 169		5.090	47/2+					169 0.201 PS +35-28
165TM 170		5.185	47/2+					170

165TM 171						5.203	(47/2+)	171

165TM 172				5.309	49/2-			172	
165TM 173						5.347	(47/2-)	173	
165TM 174		5.484	49/2+					174 0.139 PS +28-35	
165TM 175						5.526	(49/2+)	175	
165TM 176		5.551	49/2+					176	
165TM 177				5.640	51/2-			177	
165TM 178						5.701	(49/2-)	178	
165TM 179				5.725	49/2-			179 0.069 PS +21-28	
165TM 180		5.820	51/2+					180 0.125 PS +21-14	

165TM 181						5.891	(51/2+)	181	
165TM 182						5.931	(51/2+)	182	
165TM 183				6.061	53/2-			183	
165TM 184						6.072	(51/2-)	184	
165TM 185						6.246	(53/2+)	185	
165TM 186		6.264	53/2+					186 0.14 PS +5-4	
165TM 187						6.332	(53/2+)	187	
165TM 188				6.403	55/2-			188	
165TM 189						6.452	(53/2-)	189	
165TM 190				6.521	53/2-			190	

165TM 191		6.614	55/2+					191 0.15 PS +5-3	
165TM 192				6.884	57/2-			192	
165TM 193		7.110	57/2+					193	
165TM 194				7.229	59/2-			194	
165TM 195		7.481	59/2+					195	
165TM 196				7.774	61/2-			196	
165TM 197		8.023	61/2+					197	
165TM 198				8.112	63/2-			198	
165TM 199		8.410	63/2+					199	
165TM 200				8.731	65/2-			200	

165TM 201						8.998	(65/2+)	201	
165TM 202				9.054	67/2-			202	
S-n	=	9.092	(0.025)	-----					
165TM 203						9.406	(67/2+)	203	

S-p = 4.276 (0.002)-----
S-n = 9.092 (0.025)-----
S-2p = 11.130 (0.002)-----
S-2n = 16.344 (0.006)-----
S-alpha= -1.841 (0.003)-----

S+p = -5.953 (0.007)
S+n = -7.028 (0.012)
S+2p = -9.174 (0.037)
S+2n = -15.756 (0.002)
S+alpha = 2.422 (0.003)

gap p = -1.676 (0.007)
gap n = 2.064 (0.028)
gap 2p = 1.956 (0.037)
gap 2n = 0.588 (0.006)
gap alpha = 0.581 (0.004)