

^{169}Er $Z = 68$ $N = 101$ adopted link ENSDF link

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

BE = 1371.774 (0.000) MeV

Qbeta- = 0.353 (0.001) MeV

| | Energy T | J+ | J- | J-other | T1/2 |
|----------|----------|----------|-------|-------------------|--------------|
| ----- | | | | | |
| S-alpha= | -0.266 | (0.001) | ----- | | |
| 169ER 1 | | | 0.000 | 1/2- | 1 9.392 D 18 |
| 169ER 2 | | | 0.065 | 3/2- | 2 |
| 169ER 3 | | | 0.075 | 5/2- | 3 |
| 169ER 4 | | | | 0.092 (5/2)- | 4 285 NS 20 |
| 169ER 5 | | | | 0.177 (7/2)- | 5 |
| 169ER 6 | | | 0.224 | 7/2- | 6 |
| 169ER 7 | | | 0.242 | 9/2- | 7 |
| 169ER 8 | 0.244 | 7/2+ | | | 8 200 NS 10 |
| 169ER 9 | | | | 0.285 (9/2-) | 9 |
| 169ER 10 | | | | 0.317 (9/2+) | 10 |
| ----- | | | | | |
| 169ER 11 | | | | 0.413 (11/2+) | 11 |
| 169ER 12 | | | | 0.414 (11/2-) | 12 |
| 169ER 13 | | | 0.475 | 11/2- | 13 |
| 169ER 14 | | | 0.501 | 13/2- | 14 |
| 169ER 15 | | | | 0.526 (13/2)+ | 15 |
| 169ER 16 | | | | 0.562 (1/2)- | 16 |
| 169ER 17 | | | | 0.592 | 17 |
| 169ER 18 | | | | 0.599 (3/2)- | 18 |
| 169ER 19 | | | | 0.654 (5/2-) | 19 |
| 169ER 20 | | | | 0.664 (15/2+) | 20 |
| ----- | | | | | |
| 169ER 21 | | | | 0.715 (3/2)- | 21 |
| 169ER 22 | | | | 0.740 (7/2-) | 22 |
| 169ER 23 | | | | 0.770 (5/2-) | 23 |
| 169ER 24 | | | 0.813 | 15/2- | 24 |
| 169ER 25 | | | | 0.816 (17/2+) | 25 |
| 169ER 26 | | | | 0.822 (7/2-) | 26 |
| 169ER 27 | | | 0.848 | 17/2- | 27 |
| 169ER 28 | | | | 0.848 + | 28 |
| 169ER 29 | | | | 0.850 (7/2-) | 29 |
| 169ER 30 | | | 0.853 | 5/2- | 30 |
| ----- | | | | | |
| 169ER 31 | | | | 0.860 (3/2+,5/2+) | 31 |
| 169ER 32 | 0.905 | 7/2+ | | | 32 |
| 169ER 33 | | | | 0.930 (9/2-) | 33 |
| 169ER 34 | | | | 0.941 (7/2)- | 34 |
| 169ER 35 | | | | 0.947 (9/2-) | 35 |
| 169ER 36 | | | | 0.971 (+) | 36 |

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|----------|--|-------|-------|-------|----------------|----|
| 169ER 37 | | | | 0.990 | (+) | 37 |
| 169ER 38 | | | | 0.999 | (19/2+) | 38 |
| 169ER 39 | | | | 1.051 | (11/2-) | 39 |
| 169ER 40 | | | | 1.052 | (9/2-) | 40 |
| ----- | | | | | | |
| 169ER 41 | | | | 1.053 | 1/2-, 3/2- | 41 |
| 169ER 42 | | | | 1.056 | | 42 |
| 169ER 43 | | | | 1.076 | (11/2-) | 43 |
| 169ER 44 | | | | 1.082 | (3/2-) | 44 |
| 169ER 45 | | | | 1.085 | | 45 |
| 169ER 46 | | | | 1.094 | 1/2-, 3/2- | 46 |
| 169ER 47 | | | | 1.113 | | 47 |
| 169ER 48 | | | | 1.117 | (3/2-) | 48 |
| 169ER 49 | | | | 1.119 | | 49 |
| 169ER 50 | | | | 1.137 | (+) | 50 |
| ----- | | | | | | |
| 169ER 51 | | | | 1.143 | 1/2, 3/2 | 51 |
| 169ER 52 | | | | 1.145 | (5/2-) | 52 |
| 169ER 53 | | | | 1.150 | (13/2+) | 53 |
| 169ER 54 | | | | 1.186 | (11/2-) | 54 |
| 169ER 55 | | | | 1.186 | (21/2+) | 55 |
| 169ER 56 | | | | 1.215 | | 56 |
| 169ER 57 | | | | 1.221 | (+) | 57 |
| 169ER 58 | | | | 1.229 | (7/2-) | 58 |
| 169ER 59 | | 1.237 | 19/2- | | | 59 |
| 169ER 60 | | | | 1.238 | | 60 |
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| 169ER 61 | | | | 1.276 | | 61 |
| 169ER 62 | | 1.280 | 21/2- | | | 62 |
| 169ER 63 | | | | 1.296 | | 63 |
| 169ER 64 | | | | 1.341 | (9/2-) | 64 |
| 169ER 65 | | | | 1.360 | 1/2(+) | 65 |
| 169ER 66 | | | | 1.387 | 1/2-, 3/2- | 66 |
| 169ER 67 | | | | 1.394 | (11/2-) | 67 |
| 169ER 68 | | | | 1.415 | | 68 |
| 169ER 69 | | | | 1.419 | (23/2+) | 69 |
| 169ER 70 | | | | 1.434 | | 70 |
| ----- | | | | | | |
| 169ER 71 | | | | 1.456 | | 71 |
| 169ER 72 | | | | 1.471 | 1/2(-), 3/2(-) | 72 |
| 169ER 73 | | | | 1.484 | 1/2, 3/2 | 73 |
| 169ER 74 | | | | 1.488 | 1/2-, 3/2- | 74 |
| 169ER 75 | | | | 1.526 | (3/2+) | 75 |
| 169ER 76 | | | | 1.530 | 1/2-, 3/2- | 76 |
| 169ER 77 | | | | 1.535 | | 77 |
| 169ER 78 | | | | 1.548 | 11/2+, 13/2+ | 78 |
| 169ER 79 | | | | 1.554 | 1/2-, 3/2- | 79 |
| 169ER 80 | | | | 1.564 | | 80 |
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| 169ER 81 | | | | 1.572 | 1/2(-), 3/2(-) | 81 |

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|-----------|--|-------|-------|---------------|-----|
| 169ER 82 | | | 1.601 | | 82 |
| 169ER 83 | | | 1.608 | | 83 |
| 169ER 84 | | | 1.622 | | 84 |
| 169ER 85 | | | 1.632 | (25/2+) | 85 |
| 169ER 86 | | | 1.647 | (1/2+) | 86 |
| 169ER 87 | | | 1.652 | | 87 |
| 169ER 88 | | | 1.668 | 1/2,3/2 | 88 |
| 169ER 89 | | | 1.676 | | 89 |
| 169ER 90 | | | 1.680 | 1/2,3/2 | 90 |
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| 169ER 91 | | | 1.700 | | 91 |
| 169ER 92 | | | 1.710 | 1/2,3/2 | 92 |
| 169ER 93 | | | 1.716 | | 93 |
| 169ER 94 | | | 1.727 | | 94 |
| 169ER 95 | | 1.741 | 23/2- | | 95 |
| 169ER 96 | | | 1.743 | | 96 |
| 169ER 97 | | | 1.755 | | 97 |
| 169ER 98 | | | 1.774 | | 98 |
| 169ER 99 | | | 1.784 | 1/2,3/2 | 99 |
| 169ER 100 | | | 1.790 | | 100 |
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| 169ER 101 | | 1.793 | 25/2- | | 101 |
| 169ER 102 | | | 1.795 | 1/2,3/2 | 102 |
| 169ER 103 | | | 1.806 | 1/2,3/2 | 103 |
| 169ER 104 | | | 1.820 | 1/2(-),3/2(-) | 104 |
| 169ER 105 | | | 1.826 | 1/2,3/2 | 105 |
| 169ER 106 | | | 1.839 | 1/2(-),3/2(-) | 106 |
| 169ER 107 | | | 1.848 | 1/2-,3/2- | 107 |
| 169ER 108 | | | 1.856 | | 108 |
| 169ER 109 | | | 1.867 | 1/2(-),3/2(-) | 109 |
| 169ER 110 | | | 1.886 | | 110 |
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| 169ER 111 | | | 1.898 | 1/2,3/2 | 111 |
| 169ER 112 | | | 1.913 | | 112 |
| 169ER 113 | | | 1.919 | (27/2+) | 113 |
| 169ER 114 | | | 1.924 | | 114 |
| 169ER 115 | | | 1.929 | 1/2-,3/2- | 115 |
| 169ER 116 | | | 1.948 | 1/2-,3/2- | 116 |
| 169ER 117 | | | 1.955 | 1/2-,3/2- | 117 |
| 169ER 118 | | | 1.967 | 1/2,3/2 | 118 |
| 169ER 119 | | | 1.974 | | 119 |
| 169ER 120 | | | 1.979 | 1/2,3/2 | 120 |
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| 169ER 121 | | | 1.997 | 1/2,3/2 | 121 |
| 169ER 122 | | | 2.018 | | 122 |
| 169ER 123 | | | 2.023 | 1/2-,3/2- | 123 |
| 169ER 124 | | | 2.029 | 1/2-,3/2- | 124 |
| 169ER 125 | | | 2.047 | 1/2,3/2 | 125 |
| 169ER 126 | | | 2.055 | | 126 |
| 169ER 127 | | | 2.063 | 1/2,3/2 | 127 |

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| 169ER 128 | | | | 2.092 | | 128 |
| 169ER 129 | | | | 2.098 | 1/2,3/2 | 129 |
| 169ER 130 | | | | 2.112 | 1/2,3/2 | 130 |
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| 169ER 131 | | | | 2.125 | 1/2-,3/2- | 131 |
| 169ER 132 | | | | 2.141 | 1/2(-),3/2(-) | 132 |
| 169ER 133 | | | | 2.149 | (29/2+) | 133 |
| 169ER 134 | | | | 2.165 | 1/2-,3/2- | 134 |
| 169ER 135 | | | | 2.180 | 1/2-,3/2- | 135 |
| 169ER 136 | | | | 2.185 | 1/2,3/2 | 136 |
| 169ER 137 | | | | 2.204 | | 137 |
| 169ER 138 | | | | 2.219 | 1/2,3/2 | 138 |
| 169ER 139 | | | | 2.225 | 1/2-,3/2- | 139 |
| 169ER 140 | | | | 2.238 | 1/2,3/2 | 140 |
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| 169ER 141 | | | | 2.255 | | 141 |
| 169ER 142 | | | | 2.264 | 1/2,3/2 | 142 |
| 169ER 143 | | | | 2.272 | | 143 |
| 169ER 144 | | | | 2.295 | | 144 |
| 169ER 145 | | 2.324 | 27/2- | | | 145 |
| 169ER 146 | | | | 2.336 | | 146 |
| 169ER 147 | | | | 2.382 | | 147 |
| 169ER 148 | | 2.383 | 29/2- | | | 148 |
| 169ER 149 | | | | 2.420 | | 149 |
| 169ER 150 | | | | 2.440 | | 150 |
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| 169ER 151 | | | | 2.482 | | 151 |
| 169ER 152 | | | | 2.522 | | 152 |
| 169ER 153 | | | | 2.583 | | 153 |
| 169ER 154 | | 2.979 | 31/2- | | | 154 |
| 169ER 155 | | 3.045 | 33/2- | | | 155 |
| 169ER 156 | | | | 3.400 | | 156 |
| 169ER 157 | | 3.701 | 35/2- | | | 157 |
| 169ER 158 | | 3.773 | 37/2- | | | 158 |
| 169ER 159 | | 4.549 | 41/2- | | | 159 |

S-p = 8.151 (0.030)-----
S-n = 6.003 (0.000)-----
S-2p = 15.588 (0.004)-----
S-2n = 13.775 (0.000)-----
S-alpha= -0.266 (0.001)-----

S+p = -6.163 (0.001)
S+n = -7.258 (0.001)
S+2p = -12.964 (0.000)
S+2n = -12.939 (0.001)
S+alpha = 0.945 (0.000)

gap p = 1.988 (0.030)

gap n = -1.254 (0.001)
gap 2p = 2.624 (0.004)
gap 2n = 0.835 (0.001)
gap alpha = 0.679 (0.001)