

^{30}P $Z = 15$ $N = 15$ adopted link ENSDF link

Based on ensdf_240402 (Apr 2024), and mass evaluation from 2020

BE = 250.605 (0.000) MeV

Qbeta+ = 4.232 (0.000) MeV

| | Energy T | J+ | J- | J-other | T1/2 |
|-------|------------------|------|-------|------------------|--------------|
| ----- | | | | | |
| 30P | 1 0.000 | 1+ | | | 1 2.498 M 4 |
| 30P | 2 0.677 1 | 0+ | | | 2 96 FS 10 |
| 30P | 3 0.709 | 1+ | | | 3 45 PS 4 |
| 30P | 4 1.454 | 2+ | | | 4 4.5 PS 5 |
| 30P | 5 1.973 | 3+ | | | 5 1.9 PS 6 |
| 30P | 6 2.539 | (3+) | | | 6 151 FS 14 |
| 30P | 7 2.724 | 2+ | | | 7 112 FS 10 |
| 30P | 8 2.839 | (3+) | | | 8 573 FS 125 |
| 30P | 9 2.937 1 | 2+ | | | 9 48 FS 3 |
| 30P | 10 3.019 | 1+ | | | 10 2 FS 1 |
| ----- | | | | | |
| 30P | 11 3.304 | (1+) | | | 11 |
| 30P | 12 3.734 | (1+) | | | 12 26 FS 5 |
| 30P | 13 3.836 | 2+ | | | 13 32 FS 6 |
| 30P | 14 3.929 | 3+ | | | 14 79 FS 14 |
| 30P | 15 | | 4.144 | 2- | 15 30 FS 3 |
| 30P | 16 4.183 1 | 2+ | | | 16 2.2 FS 6 |
| 30P | 17 | | 4.232 | 4- | 17 1.3 PS 7 |
| 30P | 18 4.299 | 4+ | | | 18 100 FS 18 |
| 30P | 19 4.344 | 5+ | | | 19 123 FS 10 |
| 30P | 20 4.423 | 2+ | | | 20 40 FS 6 |
| ----- | | | | | |
| 30P | 21 4.468 1 | 0+ | | | 21 1.9 FS 3 |
| 30P | 22 4.502 1 | 1+ | | | 22 4.4 FS 15 |
| 30P | 23 | | 4.626 | 3- | 23 171 FS 14 |
| 30P | 24 4.736 | 3+ | | | 24 51 FS 7 |
| 30P | 25 | | | 4.926 (3-,5-) | 25 260 PS 35 |
| 30P | 26 | | | 4.937 1 | 26 4.6 FS 14 |
| 30P | 27 4.941 | (1+) | | | 27 4.3 FS 11 |
| 30P | 28 | | | 4.951 | 28 |
| 30P | 29 | | | 5.027 5-, (4-,6- | 29 |
| 30P | 30 5.207 0 | 3+ | | | 30 15 FS 4 |
| ----- | | | | | |
| 30P | 31 | | | 5.230 | 31 |
| 30P | 32 | | 5.411 | (2-) | 32 |
| 30P | 33 5.506 0 | (1+) | | | 33 3.8 FS 9 |
| 30P | 34 | | | 5.509 (2,3) | 34 10 FS 5 |
| 30P | 35 5.576 1 | 2+ | | | 35 6 FS 1 |
| S-p | = 5.595 (0.000) | | | | |
| ----- | | | | | |

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|--------|--|-----------|-----------|--|---------|------|------------------|--|--------------|
| 30P 36 | | 5.597 | 4+ | | | | | | 36 |
| 30P 37 | | 5.701 0 | 1+ | | | | | | 37 11 FS 3 |
| 30P 38 | | | | | | | 5.715 (5,7)+ | | 38 |
| 30P 39 | | 5.788 | (3 TO 5)+ | | | | | | 39 |
| 30P 40 | | | | | | | 5.808 (3,5)+ | | 40 |
| ----- | | | | | | | | | |
| 30P 41 | | | | | 5.896 | (2-) | | | 41 |
| 30P 42 | | | | | | | 5.908 (2-,1-) | | 42 |
| 30P 43 | | 5.934 | (3+) | | | | | | 43 |
| 30P 44 | | | | | | | 5.993 (0,1,2)- | | 44 |
| 30P 45 | | 5.997 | (1+) | | | | | | 45 |
| 30P 46 | | 6.006 0,1 | (3+) | | | | | | 46 |
| 30P 47 | | | | | | | 6.051 (3,4,5)+ | | 47 |
| 30P 48 | | | | | 6.094 1 | 3- | | | 48 4.4 FS 10 |
| 30P 49 | | | | | | | 6.178 (5,6,7)+ | | 49 |
| 30P 50 | | | | | | | 6.229 (3,5)+ | | 50 |
| ----- | | | | | | | | | |
| 30P 51 | | | | | 6.269 1 | (2-) | | | 51 |
| 30P 52 | | | | | | | 6.295 | | 52 |
| 30P 53 | | 6.299 0 | 3+ | | | | | | 53 |
| 30P 54 | | | | | | | 6.354 (4,5,6)- | | 54 |
| 30P 55 | | | | | | | 6.470 (5+,6-) | | 55 |
| 30P 56 | | 6.482 0 | (1+) | | | | | | 56 |
| 30P 57 | | | | | | | 6.521 (1+,2+) | | 57 |
| 30P 58 | | | | | | | 6.598 (3,4+,5+) | | 58 |
| 30P 59 | | | | | | | 6.648 | | 59 |
| 30P 60 | | | | | | | 6.668 (2-,3+) | | 60 |
| ----- | | | | | | | | | |
| 30P 61 | | | | | | | 6.788 | | 61 |
| 30P 62 | | 6.854 0 | 1+ | | | | | | 62 25 EV |
| 30P 63 | | 6.873 0 | 3+ | | | | | | 63 3 EV |
| 30P 64 | | | | | 6.877 | (2-) | | | 64 3.1 KEV |
| 30P 65 | | | | | 6.921 0 | 1- | | | 65 5.4 KEV |
| 30P 66 | | | | | | | 6.978 (3+,4+) | | 66 |
| 30P 67 | | 6.981 | (5 TO 7)+ | | | | | | 67 |
| 30P 68 | | | | | 7.015 0 | 2- | | | 68 0.70 KEV |
| 30P 69 | | | | | | | 7.045 (2,3,4)- | | 69 20 EV |
| 30P 70 | | | | | 7.049 1 | 4- | | | 70 45 EV |
| ----- | | | | | | | | | |
| 30P 71 | | | | | | | 7.119 (1+,2+,3+) | | 71 |
| 30P 72 | | | | | 7.178 1 | 1- | | | 72 15 KEV |
| 30P 73 | | | | | | | 7.202 (6+,7+) | | 73 9.4 PS 12 |
| 30P 74 | | 7.203 0 | (2+) | | | | | | 74 30 EV |
| 30P 75 | | 7.207 1 | (0+) | | | | | | 75 50 EV |
| 30P 76 | | | | | 7.223 1 | 2- | | | 76 4.5 KEV |
| 30P 77 | | 7.282 0 | 3+ | | | | | | 77 1 EV |
| 30P 78 | | 7.283 1 | 2+ | | | | | | 78 7 EV |
| 30P 79 | | | | | 7.305 0 | (2-) | | | 79 60 EV |
| 30P 80 | | | | | 7.306 0 | (2-) | | | 80 45 EV |
| ----- | | | | | | | | | |

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|---------|--|---------|-----------|---------|------|--|----------------|-----|----------|
| 30P 81 | | | | 7.322 1 | (1-) | | | 81 | 16.5 KEV |
| 30P 82 | | | | | | | 7.347 (5,6,7)+ | 82 | |
| 30P 83 | | | | | | | 7.370 | 83 | |
| 30P 84 | | 7.383 1 | (1 TO 3) | | | | | 84 | |
| 30P 85 | | | | | | | 7.472 | 85 | |
| 30P 86 | | 7.493 1 | (1+) | | | | | 86 | 3.5 KEV |
| 30P 87 | | 7.561 | (3+) | | | | | 87 | 40 EV |
| 30P 88 | | 7.562 1 | (2+) | | | | | 88 | 25 EV |
| 30P 89 | | | | 7.580 0 | (2-) | | | 89 | 0.17 KEV |
| 30P 90 | | | | | | | 7.605 (1+,2+) | 90 | 0.26 KEV |
| ----- | | | | | | | | | |
| 30P 91 | | 7.636 1 | (3+) | | | | | 91 | 3 EV LT |
| 30P 92 | | 7.644 0 | (3+) | | | | | 92 | 65 EV |
| 30P 93 | | | | | | | 7.647 (4,5,6)- | 93 | |
| 30P 94 | | | | | | | 7.688 (3+,4-) | 94 | 3 EV LT |
| 30P 95 | | | | 7.742 | (1-) | | | 95 | 52 KEV |
| 30P 96 | | 7.749 0 | (1+) | | | | | 96 | 0.53 KEV |
| 30P 97 | | | | | | | 7.753 (3+,4+) | 97 | 3 EV LT |
| 30P 98 | | 7.759 1 | (3+) | | | | | 98 | 4 EV LT |
| 30P 99 | | | | | | | 7.786 (2-,4-) | 99 | 17 EV |
| 30P 100 | | | | | | | 7.803 (2,3,4)- | 100 | 10 EV |
| ----- | | | | | | | | | |
| 30P 101 | | | | 7.826 0 | (2-) | | | 101 | 50 EV |
| 30P 102 | | | | 7.874 | (4-) | | | 102 | 20 EV |
| 30P 103 | | 7.884 | (4+) | | | | | 103 | |
| 30P 104 | | | | 7.892 | (2-) | | | 104 | 70 KEV |
| 30P 105 | | 7.921 0 | 2+ | | | | | 105 | 0.38 KEV |
| 30P 106 | | 7.922 0 | (3+) | | | | | 106 | |
| 30P 107 | | 7.922 | (4+) | | | | | 107 | |
| 30P 108 | | 7.932 1 | (0+) | | | | | 108 | 28 KEV |
| 30P 109 | | 7.997 1 | (1+) | | | | | 109 | 1.0 KEV |
| 30P 110 | | | | 8.001 | (1-) | | | 110 | 4.8 KEV |
| ----- | | | | | | | | | |
| 30P 111 | | 8.007 1 | (2+) | | | | | 111 | 0.65 KEV |
| 30P 112 | | 8.014 0 | (2+) | | | | | 112 | 0.16 KEV |
| 30P 113 | | | | | | | 8.032 (2-,1-) | 113 | 50 EV |
| 30P 114 | | | | | | | 8.053 | 114 | |
| 30P 115 | | 8.096 | 1+ | | | | | 115 | 7.4 KEV |
| 30P 116 | | 8.107 | 2+ | | | | | 116 | 0.28 KEV |
| 30P 117 | | | | | | | 8.151 | 117 | |
| 30P 118 | | | | 8.166 | 1- | | | 118 | 1.7 KEV |
| 30P 119 | | 8.181 | 1+ | | | | | 119 | 18 KEV |
| 30P 120 | | | | 8.187 | 3- | | | 120 | 0.70 KEV |
| ----- | | | | | | | | | |
| 30P 121 | | | | 8.206 | 4- | | | 121 | 40 EV |
| 30P 122 | | 8.207 | 0+ | | | | | 122 | 13 KEV |
| 30P 123 | | | | 8.209 | 0- | | | 123 | 30 KEV |
| 30P 124 | | | | | | | 8.242 (4,5,6)- | 124 | |
| 30P 125 | | | | | | | 8.271 | 125 | |
| 30P 126 | | | | 8.276 | 2- | | | 126 | 60 EV |

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|---------|--|-------|---|------|--|-------|----|----------------|----------|
| 30P 127 | | 8.278 | 1 | 2+ | | | | 127 | 1.3 KEV |
| 30P 128 | | 8.319 | | 1+ | | | | 128 | 6.0 KEV |
| 30P 129 | | | | | | 8.350 | 4- | 129 | 0.17 KEV |
| 30P 130 | | | | | | | | 8.351 | 130 |
| ----- | | | | | | | | | |
| 30P 131 | | | | | | 8.352 | 2- | 131 | 2.4 KEV |
| 30P 132 | | 8.386 | | 3+ | | | | 132 | 0.10 KEV |
| 30P 133 | | 8.398 | | 2+ | | | | 133 | 0.24 KEV |
| 30P 134 | | | | | | 8.409 | 3- | 134 | 65 EV |
| 30P 135 | | | | | | | | 8.426 | 135 |
| 30P 136 | | 8.432 | | 2+ | | | | 136 | 1.35 KEV |
| 30P 137 | | 8.451 | | 1+ | | | | 137 | 2.3 KEV |
| 30P 138 | | | | | | 8.484 | 4- | 138 | 0.13 KEV |
| 30P 139 | | | | | | 8.497 | 1- | 139 | 37 KEV |
| 30P 140 | | | | | | 8.519 | 0- | 140 | 200 KEV |
| ----- | | | | | | | | | |
| 30P 141 | | | | | | | | 8.526 (3,4,5)+ | 141 |
| 30P 142 | | | | | | | | 8.530 | 142 |
| 30P 143 | | | | | | 8.557 | 1- | 143 | 25 KEV |
| 30P 144 | | | | | | | | 8.570 | 144 |
| 30P 145 | | 8.582 | | 2+ | | | | 145 | 0.44 KEV |
| 30P 146 | | 8.619 | | 2+ | | | | 146 | 0.50 KEV |
| 30P 147 | | 8.621 | | 1+ | | | | 147 | 4.0 KEV |
| 30P 148 | | | | | | 8.632 | 4- | 148 | 0.45 KEV |
| 30P 149 | | | | | | | | 8.642 | 149 |
| 30P 150 | | 8.647 | | 3+ | | | | 150 | 70 EV |
| ----- | | | | | | | | | |
| 30P 151 | | | | | | 8.662 | 2- | 151 | 3.95 KEV |
| 30P 152 | | | | | | 8.669 | 2- | 152 | 1.5 KEV |
| 30P 153 | | 8.708 | | 1+ | | | | 153 | 28 KEV |
| 30P 154 | | | | | | 8.730 | 4- | 154 | 0.30 KEV |
| 30P 155 | | 8.755 | | (1+) | | | | 155 | 3.0 KEV |
| 30P 156 | | | | | | | | 8.820 | 156 |

S-p = 5.595 (0.000) -----
S-n = 11.319 (0.000) -----
S-2p = 17.928 (0.000) -----
S-2n = 29.196 (0.001) -----
S-alpha= 10.416 (0.000) -----

S+p = -6.131 (0.000)
S+n = -12.311 (0.000)
S+2p = -7.712 (0.001)
S+2n = -20.247 (0.000)
S+alpha = -6.664 (0.000)

gap p = -0.536 (0.000)
gap n = -0.992 (0.000)
gap 2p = 10.216 (0.001)

gap 2n = 8.949 (0.001)
gap alpha = 3.752 (0.000)