$^{31}$Si $Z = 14$ $N = 17$ adopted link ENSDF link

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

BE = 262.207 ( 0.000) MeV
Qbeta- = 1.492 ( 0.000) MeV

| | Energy | T | J+ | | J- | | J-other | | T1/2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 31SI | 1 | 0.000 | | 3/2+ | | | | 1 | 157.24 M | 20 |
| 31SI | 2 | 0.752 | | 1/2+ | | | | 2 | 0.53 PS | 12 |
| 31SI | 3 | 1.695 | | 5/2+ | | | | 3 | 0.57 PS | 15 |
| 31SI | 4 | 2.317 | | 3/2+ | | | | 4 | 38 FS | 17 |
| 31SI | 5 | 2.788 | | 5/2+ | | | | 5 | 14 FS | 14 |
| 31SI | 6 | | | | 3.133 | 7/2- | | 6 | 0.37 PS | 8 |
| 31SI | 7 | | | | 3.533 | 3/2- | | 7 | 10 FS | LT |
| 31SI | 8 | 3.874 | | (7/2+) | | | | 8 | | |
| 31SI | 9 | | | | | | 4.261 3/2+,5/2+ | 9 | | |
| 31SI | 10 | | | | 4.382 | 3/2- | | 10 | | |
| 31SI | 11 | | | | | | 4.690 | 11 | | |
| 31SI | 12 | 4.719 | | 1/2+ | | | | 12 | | |
| 31SI | 13 | | | | | | 4.944 | 13 | | |
| 31SI | 14 | | | | | | 4.968 | 14 | | |
| 31SI | 15 | | | | | | 4.997 | 15 | | |
| 31SI | 16 | | | | 5.281 | (1/2)- | | 16 | | |
| 31SI | 17 | | | | | | 5.311 | 17 | | |
| 31SI | 18 | | | | | | 5.443 5/2-,7/2- | 18 | | |
| 31SI | 19 | | | | | | 5.451 | 19 | | |
| 31SI | 20 | | | | | | 5.594 | 20 | | |
| 31SI | 21 | | | | | | 5.600 | 21 | | |
| 31SI | 22 | | | | | | 5.611 | 22 | | |
| 31SI | 23 | | | | | | 5.656 | 23 | | |
| 31SI | 24 | | | | | | 5.677 | 24 | | |
| 31SI | 25 | | | | | | 5.730 | 25 | | |
| 31SI | 26 | | | | | | 5.791 | 26 | | |
| 31SI | 27 | 5.818 | | (1/2+) | | | | 27 | | |
| 31SI | 28 | | | | | | 5.836 | 28 | | |
| 31SI | 29 | | | | | | 5.856 | 29 | | |
| 31SI | 30 | | | | | | 5.873 1/2-,3/2- | 30 | | |
| 31SI | 31 | | | | | | 5.958 (1/2-,3/2 | 31 | | |
| 31SI | 32 | | | | | | 5.984 (3/2+,5/2 | 32 | | |
| 31SI | 33 | | | | | | 6.072 3/2+,5/2+ | 33 | | |
| 31SI | 34 | | | | | | 6.106 5/2-,7/2- | 34 | | |
| 31SI | 35 | | | | | | 6.250 3/2+,5/2+ | 35 | | |
| 31SI | 36 | | | | | | 6.285 | 36 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31SI | 37 | | | | | 6.350 | | 37 | |
| 31SI | 38 | | | | | 6.418 | (5/2-,7/2 | 38 | |
| 31SI | 39 | | | | | 6.450 | | 39 | |
| 31SI | 40 | | | | | 6.461 | (3/2+,5/2 | 40 | |
| 31SI | 41 | | | | | 6.473 | | 41 | |
| 31SI | 42 | | | | | 6.491 | | 42 | |
| 31SI | 43 | | | | | 6.584 | 5/2-,7/2- | 43 | |
| 31SI | 44 | 6.587 | 1/2+ | | | | | 44 | |
| S-n | = | 6.587 ( 0.000) | | | | | | | |
| 31SI | 45 | | | 6.592 | 1/2- | | | 45 | 1.90 EV 7 |
| 31SI | 46 | | | | | 6.602 | | 46 | |
| 31SI | 47 | | | | | 6.636 | | 47 | |
| 31SI | 48 | | | | | 6.649 | | 48 | |
| 31SI | 49 | | | | | 6.662 | | 49 | |
| 31SI | 50 | 6.765 | 1/2+ | | | | | 50 | 11.00 KEV 30 |
| 31SI | 51 | | | | | 6.772 | [3/2](+) | 51 | |
| 31SI | 52 | | | | | 6.793 | | 52 | |
| 31SI | 53 | | | | | 6.815 | 3/2+,5/2+ | 53 | |
| 31SI | 54 | | | | | 6.877 | | 54 | |
| 31SI | 55 | | | 6.881 | 3/2- | | | 55 | 0.260 KEV 20 |
| 31SI | 56 | | | | | 6.887 | | 56 | |
| 31SI | 57 | | | | | 6.916 | 3/2+,5/2+ | 57 | |
| 31SI | 58 | | | | | 6.954 | 3/2+,5/2+ | 58 | |
| 31SI | 59 | | | 6.987 | 1/2- | | | 59 | 1.31 KEV 25 |
| 31SI | 60 | | | | | 7.012 | (1/2-,3/2 | 60 | |
| 31SI | 61 | | | | | 7.034 | | 61 | |
| 31SI | 62 | | | | | 7.111 | | 62 | |
| 31SI | 63 | | | | | 7.164 | (3/2+,5/2 | 63 | |
| 31SI | 64 | | | | | 7.207 | | 64 | |
| 31SI | 65 | | | | | 7.212 | 3/2+,5/2+ | 65 | |
| 31SI | 66 | | | | | 7.226 | | 66 | |
| 31SI | 67 | | | | | 7.270 | [3/2+,5/2 | 67 | |
| 31SI | 68 | | | 7.309 | 3/2- | | | 68 | |
| 31SI | 69 | | | | | 7.359 | [1/2-] | 69 | 0.86 KEV 13 |
| 31SI | 70 | | | | | 7.369 | [1/2-] | 70 | 0.52 KEV 10 |
| 31SI | 71 | | | | | 7.373 | [1/2-] | 71 | 0.60 KEV 12 |
| 31SI | 72 | | | 7.405 | 3/2- | | | 72 | 20.8 KEV 8 |
| 31SI | 73 | | | | | 7.409 | | 73 | |
| 31SI | 74 | | | | | 7.438 | 3/2+,5/2+ | 74 | |
| 31SI | 75 | | | | | 7.484 | | 75 | |
| 31SI | 76 | | | 7.536 | 1/2- | | | 76 | 6.0 KEV 10 |
| 31SI | 77 | | | | | 7.544 | | 77 | |
| 31SI | 78 | | | | | 7.564 | (3/2+,5/2 | 78 | |
| 31SI | 79 | | | | | 7.582 | | 79 | |
| 31SI | 80 | | | | | 7.642 | (3/2+,5/2 | 80 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31SI | 81 | | | | | 7.718 | 81 | | |
| 31SI | 82 | 7.732 | 1/2+ | | | | 82 | 7.50 KEV | 50 |
| 31SI | 83 | | | | | 7.766 3/2+,5/2+ | 83 | 5.00 KEV | 50 |
| 31SI | 84 | | | 7.822 | 1/2- | | 84 | 7.9 KEV | 13 |
| 31SI | 85 | | | | | 7.848 [3/2+,5/2 | 85 | 4.2 KEV | 10 |
| 31SI | 86 | | | | | 7.857 [3/2-] | 86 | 5.0 KEV | 16 |
| 31SI | 87 | | | 7.883 | 1/2- | | 87 | 9.0 KEV | 30 |
| 31SI | 88 | | | 7.901 | 3/2- | | 88 | 34.4 KEV | 34 |
| 31SI | 89 | | | | | 7.905 5/2-,7/2- | 89 | | |
| 31SI | 90 | | | 7.927 | 1/2- | | 90 | 5.8 KEV | 20 |
| 31SI | 91 | | | | | 7.944 [3/2+,5/2 | 91 | | |
| 31SI | 92 | | | | | 7.955 [3/2-] | 92 | 5.40 KEV | 12 |
| 31SI | 93 | | | | | 7.991 5/2-,7/2- | 93 | | |
| 31SI | 94 | | | | | 8.017 5/2-,7/2- | 94 | | |
| 31SI | 95 | | | | | 8.035 5/2-,7/2- | 95 | | |
| 31SI | 96 | | | | | 8.071 5/2-,7/2- | 96 | | |
| 31SI | 97 | | | | | 8.116 5/2-,7/2- | 97 | | |
| 31SI | 98 | | | | | 8.140 5/2-,7/2- | 98 | | |
| 31SI | 99 | | | | | 8.165 5/2-,7/2- | 99 | | |
| 31SI | 100 | | | | | 8.220 | 100 | | |
| 31SI | 101 | | | | | 8.240 (5/2-,7/2 | 101 | | |
| 31SI | 102 | | | | | 8.359 5/2-,7/2- | 102 | | |
| 31SI | 103 | | | | | 8.389 | 103 | | |
| 31SI | 104 | | | | | 8.570 3/2+,5/2+ | 104 | | |
| 31SI | 105 | | | | | 8.605 3/2+,5/2+ | 105 | | |
| 31SI | 106 | | | | | 8.648 | 106 | | |
| 31SI | 107 | | | | | 8.710 (5/2-,7/2 | 107 | | |
| 31SI | 108 | | | | | 8.780 (3/2+,5/2 | 108 | | |
| 31SI | 109 | | | | | 8.830 (1/2-,3/2 | 109 | | |
| 31SI | 110 | | | | | 8.850 | 110 | | |
| 31SI | 111 | | | | | 8.926 (1/2-,3/2 | 111 | | |
| 31SI | 112 | | | | | 8.967 (1/2-,3/2 | 112 | | |
| 31SI | 113 | | | | | 9.217 (3/2+,5/2 | 113 | | |
| 31SI | 114 | | | | | 9.324 | 114 | | |
| 31SI | 115 | | | | | 9.380 | 115 | | |

S-p = 14.374 ( 0.002)
S-n = 6.587 ( 0.000)
S-2p = 26.915 ( 0.000)
S-2n = 17.197 ( 0.000)
S-alpha= 10.787 ( 0.000)

S+p = -8.645 ( 0.000)
S+n = -9.200 ( 0.000)
S+2p = -18.215 ( 0.000)
S+2n = -13.708 ( 0.001)

```
S+alpha   =  -8.322 ( 0.000)

gap p     =   5.729 ( 0.002)
gap n     =  -2.613 ( 0.000)
gap 2p    =   8.700 ( 0.000)
gap 2n    =   3.489 ( 0.001)
gap alpha =   2.465 ( 0.000)
```