

^{227}Fr $Z = 87$ $N = 140$ adopted link ENSDF link

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

BE = 1734.443 (0.006) MeV

Qbeta- = 2.505 (0.006) MeV

| | Energy T | J+ | J- | J-other | T1/2 |
|----------|----------|----------|------------|----------------------|-------------|
| ----- | | | | | |
| S-alpha= | -3.829 | (0.015) | ----- | | |
| 227FR 1 | 0.000 | 1/2+ | | | 1 2.47 M 3 |
| 227FR 2 | | | | 0.003 (3/2-) | 2 |
| 227FR 3 | | | | 0.032 (5/2+) | 3 |
| 227FR 4 | | | | 0.034 (5/2-) | 4 |
| 227FR 5 | 0.040 | 3/2+ | | | 5 2.7 NS 2 |
| 227FR 6 | | | | 0.056 1/2,3/2 | 6 |
| 227FR 7 | | | | 0.059 1/2-,3/2- | 7 |
| 227FR 8 | | | 0.063 1/2- | | 8 |
| 227FR 9 | 0.066 | 3/2+ | | | 9 |
| 227FR 10 | | | | 0.088 (7/2-) | 10 |
| ----- | | | | | |
| 227FR 11 | | | 0.095 3/2- | | 11 |
| 227FR 12 | | | | 0.121 (7/2+) | 12 |
| 227FR 13 | | | | 0.132 | 13 |
| 227FR 14 | 0.144 | 3/2+ | | | 14 38 PS 12 |
| 227FR 15 | 0.165 | 5/2+ | | | 15 49 PS 8 |
| 227FR 16 | | | | 0.224 3/2-,5/2- | 16 36 PS LT |
| 227FR 17 | | | | 0.298 | 17 |
| 227FR 18 | 0.306 | 3/2+ | | | 18 24 PS LT |
| 227FR 19 | | | | 0.331 | 19 |
| 227FR 20 | | | | 0.379 | 20 |
| ----- | | | | | |
| 227FR 21 | | | | 0.419 3/2-,5/2- | 21 29 PS LT |
| 227FR 22 | | | | 0.428 | 22 |
| 227FR 23 | | | | 0.445 | 23 |
| 227FR 24 | | | | 0.535 (3/2)- | 24 |
| 227FR 25 | | | | 0.580 1/2-,3/2-,5/2- | 25 |
| 227FR 26 | | | | 0.675 3/2+,5/2+ | 26 |
| 227FR 27 | 0.686 | 3/2+ | | | 27 |
| 227FR 28 | | | | 0.689 (3/2+,5/2+) | 28 |
| 227FR 29 | | | | 0.690 | 29 |
| 227FR 30 | | | | 0.716 | 30 |
| ----- | | | | | |
| 227FR 31 | | | | 0.850 | 31 |
| 227FR 32 | | | | 0.861 | 32 |
| 227FR 33 | | | | 0.872 | 33 |
| 227FR 34 | | | | 0.893 (3/2,5/2)+ | 34 |
| 227FR 35 | | | | 0.899 | 35 |
| 227FR 36 | | | | 0.904 3/2+,5/2+ | 36 |

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|-------|----|--|--|--|-------|------------|----|
| 227FR | 37 | | | | 0.923 | | 37 |
| 227FR | 38 | | | | 0.949 | (3/2,5/2)- | 38 |
| 227FR | 39 | | | | 0.955 | | 39 |

S-p = 6.354 (0.012)-----
 S-n = 5.909 (0.009)-----
 S-2p = 15.218 (0.225)-----
 S-2n = 10.281 (0.013)-----
 S-alpha= -3.829 (0.015)-----

S+p = -8.031 (0.006)
 S+n = -4.370 (0.009)
 S+2p = -13.570 (0.013)
 S+2n = -10.157 (0.008)
 S+alpha = 3.656 (0.014)

gap p = -1.677 (0.014)
 gap n = 1.540 (0.012)
 gap 2p = 1.647 (0.225)
 gap 2n = 0.124 (0.015)
 gap alpha = -0.174 (0.021)