

$^{143}\text{Dy}$        $Z = 66$        $N = 77$       adopted link      ENSDF link

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

BE = 1154.733 ( 0.013) MeV

Qbeta+ = 8.250 ( 0.053) MeV

|          | Energy T | J+       | J-    | J-other | T1/2       |
|----------|----------|----------|-------|---------|------------|
| -----    |          |          |       |         |            |
| S-alpha= | -3.077   | ( 0.140) | ----- |         |            |
| 143DY 1  |          |          | 0.000 | (1/2+)  | 1 5.6 S 10 |
| 143DY 2  |          |          | 0.067 | (1/2+)  | 2          |
| 143DY 3  |          |          | 0.251 | (3/2-)  | 3          |
| 143DY 4  |          |          | 0.311 | (11/2-) | 4 3.0 S 3  |
| 143DY 5  |          |          | 0.320 |         | 5          |
| 143DY 6  |          |          | 0.406 |         | 6 1.2 US 3 |
| 143DY 7  |          |          | 0.433 |         | 7          |
| 143DY 8  |          |          | 0.472 | (7/2-)  | 8          |
| 143DY 9  |          |          | 0.694 | (11/2-) | 9          |
| 143DY 10 |          |          | 0.806 | (15/2-) | 10         |
| -----    |          |          |       |         |            |
| 143DY 11 |          |          | 0.845 | (11/2-) | 11         |
| 143DY 12 |          |          | 0.923 |         | 12         |
| 143DY 13 |          |          | 1.011 | (13/2-) | 13         |
| 143DY 14 |          |          | 1.044 | (15/2-) | 14         |
| 143DY 15 |          |          | 1.410 | (15/2-) | 15         |
| 143DY 16 |          |          | 1.498 |         | 16         |
| 143DY 17 |          |          | 1.529 | (19/2-) | 17         |
| 143DY 18 |          |          | 1.558 | (17/2-) | 18         |
| 143DY 19 |          |          | 1.582 | (19/2-) | 19         |
| 143DY 20 |          |          | 1.850 | (19/2-) | 20         |
| -----    |          |          |       |         |            |
| 143DY 21 |          |          | 1.875 | (17/2-) | 21         |
| 143DY 22 |          |          | 1.942 | (19/2-) | 22         |
| 143DY 23 |          |          | 2.059 | (19/2-) | 23         |
| 143DY 24 |          |          | 2.074 | (19/2-) | 24         |
| 143DY 25 |          |          | 2.092 | (13/2+) | 25         |
| 143DY 26 |          |          | 2.232 | (23/2-) | 26         |
| 143DY 27 |          |          | 2.235 | (21/2-) | 27         |
| 143DY 28 |          |          | 2.312 | (23/2-) | 28         |
| 143DY 29 |          |          | 2.380 | (23/2-) | 29         |
| 143DY 30 |          |          | 2.442 | (23/2-) | 30         |
| -----    |          |          |       |         |            |
| 143DY 31 |          |          | 2.556 | (23/2-) | 31         |
| 143DY 32 |          |          | 2.579 | (17/2+) | 32         |
| 143DY 33 |          |          | 2.590 | (21/2-) | 33         |
| 143DY 34 |          |          | 2.761 | (23/2-) | 34         |
| 143DY 35 |          |          | 2.806 | (21/2)  | 35         |
| 143DY 36 |          |          | 2.874 | (25/2-) | 36         |

|       |    |       |          |       |         |    |
|-------|----|-------|----------|-------|---------|----|
| S-p   | =  | 2.898 | ( 0.701) | ----- |         |    |
| 143DY | 37 |       |          | 2.916 | (27/2-) | 37 |
| 143DY | 38 |       |          | 3.038 | (25/2-) | 38 |
| 143DY | 39 |       |          | 3.104 | (21/2+) | 39 |
| 143DY | 40 |       |          | 3.134 | (27/2-) | 40 |
| ----- |    |       |          |       |         |    |
| 143DY | 41 |       |          | 3.163 | (25/2)  | 41 |
| 143DY | 42 |       |          | 3.176 |         | 42 |
| 143DY | 43 |       |          | 3.202 |         | 43 |
| 143DY | 44 |       |          | 3.248 | (27/2-) | 44 |
| 143DY | 45 |       |          | 3.272 |         | 45 |
| 143DY | 46 |       |          | 3.372 | (27/2-) | 46 |
| 143DY | 47 |       |          | 3.441 | (29/2-) | 47 |
| S-2p  | =  | 3.523 | ( 0.024) | ----- |         |    |
| 143DY | 48 |       |          | 3.588 | (31/2-) | 48 |
| 143DY | 49 |       |          | 3.651 | (29/2-) | 49 |
| 143DY | 50 |       |          | 3.666 | (29/2-) | 50 |
| ----- |    |       |          |       |         |    |
| 143DY | 51 |       |          | 3.675 | (25/2+) | 51 |
| 143DY | 52 |       |          | 3.677 | (31/2-) | 52 |
| 143DY | 53 |       |          | 3.714 | (29/2)  | 53 |
| 143DY | 54 |       |          | 3.852 | (31/2-) | 54 |
| 143DY | 55 |       |          | 3.909 |         | 55 |
| 143DY | 56 |       |          | 4.040 |         | 56 |
| 143DY | 57 |       |          | 4.060 | (33/2-) | 57 |
| 143DY | 58 |       |          | 4.232 | (35/2-) | 58 |
| 143DY | 59 |       |          | 4.312 | (29/2+) | 59 |
| 143DY | 60 |       |          | 4.377 |         | 60 |
| ----- |    |       |          |       |         |    |
| 143DY | 61 |       |          | 4.384 | (35/2-) | 61 |
| 143DY | 62 |       |          | 4.388 |         | 62 |
| 143DY | 63 |       |          | 4.436 | (33/2)  | 63 |
| 143DY | 64 |       |          | 4.466 |         | 64 |
| 143DY | 65 |       |          | 4.655 | (35/2-) | 65 |
| 143DY | 66 |       |          | 4.821 | (31/2-) | 66 |
| 143DY | 67 |       |          | 4.860 | (37/2-) | 67 |
| 143DY | 68 |       |          | 5.020 | (33/2+) | 68 |
| 143DY | 69 |       |          | 5.231 | (39/2-) | 69 |
| 143DY | 70 |       |          | 5.295 | (37/2)  | 70 |
| ----- |    |       |          |       |         |    |
| 143DY | 71 |       |          | 5.510 | (39/2-) | 71 |
| 143DY | 72 |       |          | 5.583 |         | 72 |
| 143DY | 73 |       |          | 5.793 | (37/2+) | 73 |
| 143DY | 74 |       |          | 5.917 |         | 74 |
| 143DY | 75 |       |          | 6.029 |         | 75 |
| 143DY | 76 |       |          | 6.166 |         | 76 |
| 143DY | 77 |       |          | 6.279 | (43/2-) | 77 |
| 143DY | 78 |       |          | 6.629 | (41/2+) | 78 |
| 143DY | 79 |       |          | 7.010 | (47/2-) | 79 |
| 143DY | 80 |       |          | 7.527 | (45/2+) | 80 |

| ----- |    |  |  |       |         | ----- |
|-------|----|--|--|-------|---------|-------|
| 143DY | 81 |  |  | 7.903 | (51/2-) | 81    |
| 143DY | 82 |  |  | 8.498 | (49/2+) | 82    |
| 143DY | 83 |  |  | 0.000 | (1/2+)  | 83    |

S-p = 2.898 ( 0.701)-----  
 S-n = 10.071 ( 0.710)-----  
 S-2p = 3.523 ( 0.024)-----  
 S-2n = 22.926 ( 0.282)-----  
 S-alpha= -3.077 ( 0.140)-----

S+p = 0.271 ( 0.016)  
 S+n = -12.472 ( 0.015)  
 S+2p = -1.642 ( 0.146)  
 S+2n = -22.216 ( 0.015)  
 S+alpha = 3.136 ( 0.040)

gap p = 3.169 ( 0.701)  
 gap n = -2.402 ( 0.710)  
 gap 2p = 1.880 ( 0.147)  
 gap 2n = 0.709 ( 0.283)  
 gap alpha = 0.059 ( 0.145)