

$^{107}\text{Cd}$        $Z = 48$        $N = 59$       adopted link      ENSDF link

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

BE = 913.069 ( 0.002) MeV

Qbeta+ = 1.416 ( 0.003) MeV

|          | Energy T | J+    | J-          | J-other                | T1/2            |
|----------|----------|-------|-------------|------------------------|-----------------|
| 107CD 1  | 0.000    | 5/2+  |             |                        | 1 6.50 H 2      |
| 107CD 2  | 0.205    | 7/2+  |             |                        | 2 0.71 NS 4     |
| 107CD 3  | 0.321    | 5/2+  |             |                        | 3 42 PS LE      |
| 107CD 4  | 0.365    | 3/2+  |             |                        | 4               |
| 107CD 5  | 0.458    | 1/2+  |             |                        | 5               |
| 107CD 6  | 0.505    | 7/2+  |             |                        | 6               |
| 107CD 7  |          |       |             | 0.702 (3/2)+           | 7               |
| 107CD 8  | 0.809    | 9/2+  |             |                        | 8 3.0 PS 15     |
| 107CD 9  |          |       |             | 0.840 (3/2)+           | 9               |
| 107CD 10 |          |       | 0.846 11/2- |                        | 10 71 NS 5      |
| 107CD 11 | 0.906    | 1/2+  |             |                        | 11              |
| 107CD 12 |          |       |             | 0.919 (5/2)+           | 12              |
| 107CD 13 |          |       |             | 0.922 (9/2)+           | 13 0.4 PS +2-1  |
| 107CD 14 | 0.933    | 11/2+ |             |                        | 14 4.8 PS 14    |
| 107CD 15 |          |       |             | 0.999 (5/2)+           | 15              |
| 107CD 16 |          |       |             | 1.059 7/2+,9/2+        | 16              |
| 107CD 17 |          |       |             | 1.059 (5/2)-           | 17              |
| 107CD 18 |          |       |             | 1.159 (5/2)            | 18              |
| 107CD 19 |          |       |             | 1.214 (3/2+,5/2+)      | 19              |
| 107CD 20 |          |       |             | 1.236 (3/2+,5/2+,7/2+) | 20              |
| 107CD 21 |          |       |             | 1.245 (3/2+,5/2+)      | 21              |
| 107CD 22 | 1.268    | 7/2+  |             |                        | 22              |
| 107CD 23 | 1.279    | 1/2+  |             |                        | 23              |
| 107CD 24 |          |       |             | 1.320                  | 24              |
| 107CD 25 |          |       | 1.360 15/2- |                        | 25 21.8 PS 12   |
| 107CD 26 | 1.377    | 7/2+  |             |                        | 26              |
| 107CD 27 |          |       |             | 1.421 (11/2+)          | 27 0.8 PS +4-2  |
| 107CD 28 |          |       |             | 1.526 (3/2,5/2,7/2)    | 28              |
| 107CD 29 | 1.527    | 1/2+  |             |                        | 29              |
| 107CD 30 |          |       |             | 1.530                  | 30 0.16 PS +6-4 |
| 107CD 31 |          |       |             | 1.573 (3/2,5/2)        | 31              |
| 107CD 32 |          |       |             | 1.591 3/2+,5/2+        | 32              |
| 107CD 33 |          |       |             | 1.646                  | 33              |
| 107CD 34 |          |       |             | 1.653                  | 34              |
| 107CD 35 |          |       |             | 1.675                  | 35              |
| 107CD 36 |          |       |             | 1.692                  | 36              |
| 107CD 37 |          |       |             | 1.713                  | 37              |

|          |       |   |        |       |       |             |         |            |
|----------|-------|---|--------|-------|-------|-------------|---------|------------|
| 107CD    | 38    |   |        |       | 1.719 |             |         | 38         |
| 107CD    | 39    |   |        |       | 1.731 | (13/2+)     |         | 39         |
| 107CD    | 40    |   | 1.749  | 1/2+  |       |             |         | 40         |
| -----    |       |   |        |       |       |             |         |            |
| 107CD    | 41    |   |        |       | 1.764 |             |         | 41         |
| 107CD    | 42    |   | 1.776  | 7/2+  |       |             |         | 42         |
| 107CD    | 43    |   |        |       | 1.781 |             |         | 43         |
| 107CD    | 44    |   |        |       | 1.870 |             |         | 44         |
| 107CD    | 45    |   |        |       | 1.877 |             |         | 45         |
| 107CD    | 46    |   |        |       | 1.885 |             |         | 46         |
| 107CD    | 47    |   | 1.904  | 1/2+  |       |             |         | 47         |
| 107CD    | 48    |   |        |       | 1.909 |             |         | 48         |
| 107CD    | 49    |   |        |       | 1.920 |             |         | 49         |
| 107CD    | 50    |   | 1.922  | 7/2+  |       |             |         | 50         |
| -----    |       |   |        |       |       |             |         |            |
| 107CD    | 51    |   | 1.923  | 15/2+ |       |             |         | 51         |
| S-alpha= | 1.958 | ( | 0.002) | ----- |       |             |         | 0.90 PS 25 |
| 107CD    | 52    |   |        |       | 1.963 |             |         | 52         |
| 107CD    | 53    |   | 2.006  | 7/2+  |       |             |         | 53         |
| 107CD    | 54    |   |        |       | 2.064 | 7/2+,9/2+   |         | 54         |
| 107CD    | 55    |   |        |       | 2.082 |             |         | 55         |
| 107CD    | 56    |   |        |       | 2.146 |             |         | 56         |
| 107CD    | 57    |   |        | 2.158 | 19/2- |             |         | 57         |
|          |       |   |        |       |       |             | 2.3 PS  | 7          |
| 107CD    | 58    |   |        |       | 2.183 |             |         | 58         |
| 107CD    | 59    |   |        |       | 2.204 |             |         | 59         |
| 107CD    | 60    |   |        |       | 2.210 |             |         | 60         |
| -----    |       |   |        |       |       |             |         |            |
| 107CD    | 61    |   |        |       | 2.257 |             |         | 61         |
| 107CD    | 62    |   |        |       | 2.276 | (3/2+,5/2+) |         | 62         |
| 107CD    | 63    |   |        |       | 2.279 |             | 0.55 PS | +25-15     |
| 107CD    | 64    |   |        |       | 2.285 | 7/2+,9/2+   |         | 64         |
| 107CD    | 65    |   |        |       | 2.304 | 7/2+,9/2+   |         | 65         |
| 107CD    | 66    |   |        |       | 2.310 |             |         | 66         |
| 107CD    | 67    |   |        |       | 2.343 |             |         | 67         |
| 107CD    | 68    |   | 2.360  | 1/2+  |       |             |         | 68         |
| 107CD    | 69    |   |        |       | 2.366 |             |         | 69         |
| 107CD    | 70    |   |        |       | 2.406 |             |         | 70         |
| -----    |       |   |        |       |       |             |         |            |
| 107CD    | 71    |   |        |       | 2.422 |             |         | 71         |
| 107CD    | 72    |   |        |       | 2.425 | 3/2+,5/2+   |         | 72         |
| 107CD    | 73    |   |        |       | 2.448 |             |         | 73         |
| 107CD    | 74    |   |        |       | 2.463 |             |         | 74         |
| 107CD    | 75    |   |        |       | 2.481 |             |         | 75         |
| 107CD    | 76    |   |        |       | 2.504 |             |         | 76         |
| 107CD    | 77    |   |        |       | 2.546 | (17/2-)     |         | 77         |
|          |       |   |        |       |       |             | 0.45 PS | 15         |
| 107CD    | 78    |   |        |       | 2.548 |             |         | 78         |
| 107CD    | 79    |   |        |       | 2.559 | 1/2-,3/2-   |         | 79         |
| 107CD    | 80    |   |        |       | 2.584 |             |         | 80         |
| -----    |       |   |        |       |       |             |         |            |
| 107CD    | 81    |   |        |       | 2.629 |             |         | 81         |

|           |       |          |       |       |                 |       |         |       |
|-----------|-------|----------|-------|-------|-----------------|-------|---------|-------|
| 107CD 82  |       |          |       | 2.638 |                 | 82    |         |       |
| 107CD 83  |       |          |       | 2.646 |                 | 83    |         |       |
| 107CD 84  |       |          |       | 2.653 | 7/2+,9/2+       | 84    |         |       |
| 107CD 85  | 2.679 | 21/2+    |       |       |                 | 85    | 55 NS   | 4     |
| 107CD 86  |       |          |       | 2.701 |                 | 86    |         |       |
| 107CD 87  |       |          |       | 2.719 | (1/2+)          | 87    |         |       |
| 107CD 88  |       |          |       | 2.764 | 7/2+,9/2+,11/2+ | 88    |         |       |
| 107CD 89  |       |          |       | 2.807 | (19/2+)         | 89    | 1.0 PS  | 4     |
| 107CD 90  |       |          |       | 2.811 | (1/2+)          | 90    |         |       |
| -----     |       |          |       |       |                 |       |         |       |
| 107CD 91  |       |          |       | 2.812 | 7/2+,9/2+,11/2+ | 91    |         |       |
| 107CD 92  |       |          |       | 2.819 |                 | 92    |         |       |
| 107CD 93  |       |          |       | 2.875 | 7/2+,9/2+       | 93    |         |       |
| 107CD 94  |       |          |       | 2.922 | 7/2+,9/2+,11/2+ | 94    |         |       |
| 107CD 95  |       |          |       | 2.986 | 7/2+,9/2+       | 95    |         |       |
| 107CD 96  |       |          |       | 3.002 | 7/2+,9/2+,11/2+ | 96    |         |       |
| 107CD 97  |       |          | 3.049 | 21/2- |                 | 97    | 0.6 PS  | 2     |
| 107CD 98  |       |          |       | 3.063 |                 | 98    |         |       |
| 107CD 99  |       |          | 3.114 | 23/2- |                 | 99    | 0.8 PS  | 3     |
| 107CD 100 | 3.118 | 19/2+    |       |       |                 | 100   |         |       |
| -----     |       |          |       |       |                 |       |         |       |
| 107CD 101 |       |          |       | 3.217 | (17/2)          | 101   |         |       |
| 107CD 102 |       |          |       | 3.321 | (7/2+,9/2+)     | 102   |         |       |
| 107CD 103 |       |          |       | 3.383 |                 | 103   |         |       |
| 107CD 104 |       |          |       | 3.450 |                 | 104   |         |       |
| 107CD 105 |       |          |       | 3.516 |                 | 105   |         |       |
| 107CD 106 |       |          |       | 3.580 | (21/2)          | 106   |         |       |
| 107CD 107 | 4.009 | 23/2+    |       |       |                 | 107   |         |       |
| 107CD 108 |       |          | 4.165 | 27/2- |                 | 108   | 0.40 PS | 15    |
| 107CD 109 |       |          | 4.182 | 27/2- |                 | 109   |         |       |
| 107CD 110 | 4.190 | 25/2+    |       |       |                 | 110   |         |       |
| -----     |       |          |       |       |                 |       |         |       |
| 107CD 111 |       |          | 4.364 | 27/2- |                 | 111   |         |       |
| 107CD 112 | 4.503 | 27/2+    |       |       |                 | 112   |         |       |
| 107CD 113 | 4.877 | 29/2+    |       |       |                 | 113   |         |       |
| 107CD 114 | 5.019 | 29/2+    |       |       |                 | 114   |         |       |
| 107CD 115 | 5.231 | 31/2+    |       |       |                 | 115   |         |       |
| 107CD 116 |       |          | 5.315 | 31/2- |                 | 116   |         |       |
| 107CD 117 |       |          |       | 5.334 | (31/2-)         | 117   |         |       |
| 107CD 118 |       |          |       | 5.565 | (29/2)          | 118   |         |       |
| 107CD 119 | 5.816 | 33/2+    |       |       |                 | 119   |         |       |
| 107CD 120 | 6.035 | 33/2+    |       |       |                 | 120   |         |       |
| -----     |       |          |       |       |                 |       |         |       |
| 107CD 121 | 6.183 | 35/2+    |       |       |                 | 121   |         |       |
| 107CD 122 |       |          |       | 6.616 | (35/2-)         | 122   |         |       |
| 107CD 123 | 6.922 | 37/2+    |       |       |                 | 123   |         |       |
| 107CD 124 | 7.221 | 37/2+    |       |       |                 | 124   |         |       |
| 107CD 125 | 7.317 | 39/2+    |       |       |                 | 125   |         |       |
| S-p =     | 7.337 | ( 0.003) | ----- | ----- | -----           | ----- | -----   | ----- |
| 107CD 126 |       |          |       | 7.832 | (39/2-)         | 126   |         |       |

S-n = 7.930 ( 0.002)-----

|           |  |       |       |       |        |     |
|-----------|--|-------|-------|-------|--------|-----|
| 107CD 127 |  |       |       | 8.048 | (37/2) | 127 |
| 107CD 128 |  | 8.187 | 41/2+ |       |        | 128 |
| 107CD 129 |  | 8.671 | 43/2+ |       |        | 129 |
| 107CD 130 |  | 9.622 | 45/2+ |       |        | 130 |
| -----     |  |       |       |       |        |     |
| 107CD 131 |  |       |       | 9.856 | (45/2) | 131 |

S-p = 7.337 ( 0.003)-----

S-n = 7.930 ( 0.002)-----

S-2p = 13.150 ( 0.002)-----

S-2n = 18.799 ( 0.002)-----

S-alpha= 1.958 ( 0.002)-----

S+p = -4.418 ( 0.009)

S+n = -10.333 ( 0.002)

S+2p = -10.218 ( 0.008)

S+2n = -17.657 ( 0.002)

S+alpha = -1.373 ( 0.006)

gap p = 2.918 ( 0.009)

gap n = -2.404 ( 0.003)

gap 2p = 2.933 ( 0.008)

gap 2n = 1.142 ( 0.003)

gap alpha = 0.585 ( 0.006)