

TAVOLA PERIODICA DEI NUCLEI ATOMICI

configurazione dei livelli nucleari degli isotopi **TANTALIO** **Z = 73-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1217.68}{1217.6}$	Ta ₇₃ ¹⁵⁵	$\frac{154.97452}{154.97459}$	73n	2+0	8+0	18+0	29+0	5+0	2+8	0+1	$\frac{2.28543M}{p \ 13\mu s}$
$\frac{1227.97}{1227.9}$	Ta ₇₃ ¹⁵⁶	$\frac{155.97214}{155.97223}$	73n	2+0	8+0	18+0	30+0	4+0	0+10	1+0	$\frac{1.52161M}{p \ 144ms}$
$\frac{1239.62}{1239.7}$	Ta ₇₃ ¹⁵⁷	$\frac{156.96829}{156.96819}$	73n	2+0	8+0	18+0	31+0	3+1	0+9	0+1	$\frac{6.355M}{\alpha \ 10.1ms}$
$\frac{1249.15}{1249.2}$	Ta ₇₃ ¹⁵⁸	$\frac{157.96673}{157.96670}$	73n	2+0	8+0	18+0	31+0	1+3	1+8	0+1	$\frac{6.124M}{\alpha \ 55.0ms}$
$\frac{1261.15}{1260.7}$	Ta ₇₃ ¹⁵⁹	$\frac{158.96251}{158.963018}$	73n	2+0	8+0	18+0	30+1	1+3	0+9	1+0	$\frac{8.410M}{ce \ 0.83s}$
$\frac{1269.65}{1270.2}$	Ta ₇₃ ¹⁶⁰	$\frac{159.96205}{159.96149}$	73n	2+0	8+0	18+0	30+1	1+4	0+8	0+1	$\frac{10.00M}{ce \ 1.55s}$
$\frac{1280.89}{1281.1}$	Ta ₇₃ ¹⁶¹	$\frac{160.95865}{160.95842}$	73n	2+0	8+0	18+0	30+1	0+6	0+7	0+1	$\frac{5.330M}{\alpha \ 3s}$
$\frac{1290.42}{1290.2}$	Ta ₇₃ ¹⁶²	$\frac{161.95708}{161.95729}$	73n	2+0	8+0	18+0	28+2	0+7	1+6	0+1	$\frac{9.390M}{ce \ 3.57s}$
$\frac{1300.98}{1301.1}$	Ta ₇₃ ¹⁶³	$\frac{162.95441}{162.95433}$	73n	2+0	8+0	18+0	26+3	0+8	1+6	1+0	$\frac{6.750M}{ce \ 10.6s}$
$\frac{1310.51}{1309.9}$	Ta ₇₃ ¹⁶⁴	$\frac{163.95284}{163.95353}$	73n	2+0	8+0	18+0	26+3	0+9	0+6	1+0	$\frac{8.550M}{ce \ 14.2s}$
$\frac{1320.71}{1320.5}$	Ta ₇₃ ¹⁶⁵	$\frac{164.95056}{164.950773}$	73n	2+0	8+0	18+0	24+4	1+10	1+4	0+1	$\frac{5.780M}{ce \ 31.0s}$
$\frac{1328.53}{1328.8}$	Ta ₇₃ ¹⁶⁶	$\frac{165.95083}{165.95051}$	73n	2+0	8+0	18+0	24+4	0+11	1+4	0+1	$\frac{7.760M}{ce \ 34.4s}$
$\frac{1339.09}{1339.2}$	Ta ₇₃ ¹⁶⁷	$\frac{166.94816}{166.94809}$	73n	2+0	8+0	18+0	22+5	0+12	1+4	1+0	$\frac{5.120M}{ce \ 80.0s}$
$\frac{1347.59}{1347.3}$	Ta ₇₃ ¹⁶⁸	$\frac{167.94770}{167.94805}$	73n	2+0	8+0	18+0	22+5	0+13	1+3	0+1	$\frac{6.970M}{ce \ 2.0m}$
$\frac{1357.12}{1357.2}$	Ta ₇₃ ¹⁶⁹	$\frac{168.94613}{168.94601}$	73n	2+0	8+0	18+0	22+5	0+14	0+3	0+1	$\frac{4.430M}{ce \ 4.90m}$
$\frac{1364.94}{1365.1}$	Ta ₇₃ ¹⁷⁰	$\frac{169.94640}{169.94618}$	73n	2+0	8+0	18+0	20+6	1+14	0+3	0+1	$\frac{6.120M}{ce \ 6.76m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{P-T_{1/2}}$
$\frac{1374.47}{1374.8}$	Ta ₇₃ ¹⁷¹	$\frac{170.94484}{170.94448}$	73n	2+0	8+0	18+0	18+7	1+15	1+2	0+1	$\frac{3.710M}{ce\ 23.3m}$
$\frac{1382.29}{1382.5}$	Ta ₇₃ ¹⁷²	$\frac{171.94511}{171.94490}$	73n	2+0	8+0	18+0	18+7	0+16	1+2	0+1	$\frac{5.070M}{ce\ 36.8m}$
$\frac{1391.14}{1391.6}$	Ta ₇₃ ¹⁷³	$\frac{172.94427}{172.94375}$	73n	2+0	8+0	18+0	16+8	1+16	0+3	1+0	$\frac{3.020M}{ce\ 3.14h}$
$\frac{1398.95}{1399.0}$	Ta ₇₃ ¹⁷⁴	$\frac{173.94455}{173.94445}$	73n	2+0	8+0	18+0	16+8	0+17	0+3	1+0	$\frac{4.100M}{ce\ 1.14h}$
$\frac{1406.77}{1407.8}$	Ta ₇₃ ¹⁷⁵	$\frac{174.94482}{174.94374}$	73n	2+0	8+0	18+0	14+9	1+17	0+3	1+0	$\frac{2.070M}{ce\ 10.5h}$
$\frac{1415.62}{1414.8}$	Ta ₇₃ ¹⁷⁶	$\frac{175.94398}{175.94486}$	73n	2+0	8+0	18+0	14+9	0+18	1+3	0+0	$\frac{3.210M}{ce\ 8.09h}$
$\frac{1423.44}{1423.2}$	Ta ₇₃ ¹⁷⁷	$\frac{176.94425}{176.94472}$	73n	2+0	8+0	18+0	12+10	1+18	1+3	0+0	$\frac{1.166K}{ce\ 56.56h}$
$\frac{1429.55}{1430.1}$	Ta ₇₃ ¹⁷⁸	$\frac{177.94636}{177.945778}$	73n	2+0	8+0	18+0	12+10	1+18	0+4	0+0	$\frac{1.937M}{ce\ 9.31m}$
$\frac{1437.37}{1438.0}$	Ta ₇₃ ¹⁷⁹	$\frac{178.94663}{178.945929}$	73n	2+0	8+0	18+0	12+10	0+19	0+4	0+0	$\frac{105.6K}{ce\ 1.82a}$
$\frac{1445.19}{1444.7}$	Ta ₇₃ ¹⁸⁰	$\frac{179.94690}{179.947465}$	73n	2+0	8+0	18+0	10+11	1+19	0+4	0+0	$\frac{847.0K}{ce\ 1.2\cdot 10^{15}a}$ 0.012%
$\frac{1453.01}{1452.2}$	Ta ₇₃ ¹⁸¹	$\frac{180.94717}{180.947996}$	73n	2+0	8+0	18+0	10+11	0+20	0+4	0+0	st 99.988%
$\frac{1459.11}{1458.3}$	Ta ₇₃ ¹⁸²	$\frac{181.94928}{181.950152}$	73n	2+0	8+0	18+0	8+12	0+20	1+4	0+0	$\frac{1.8140M}{\beta^- 114.74d}$
$\frac{1465.22}{1465.2}$	Ta ₇₃ ¹⁸³	$\frac{182.95139}{182.951373}$	73n	2+0	8+0	18+0	8+12	0+20	0+5	0+0	$\frac{1.0707M}{\beta^- 5.10d}$
$\frac{1471.33}{1470.9}$	Ta ₇₃ ¹⁸⁴	$\frac{183.95350}{183.954008}$	73n	2+0	8+0	18+0	6+13	0+20	1+5	0+0	$\frac{2.870M}{\beta^- 8.70h}$
$\frac{1477.44}{1477.5}$	Ta ₇₃ ¹⁸⁵	$\frac{184.95560}{184.955559}$	73n	2+0	8+0	18+0	6+13	0+20	0+6	0+0	$\frac{1.994M}{\beta^- 49.4m}$
$\frac{1483.55}{1482.8}$	Ta ₇₃ ¹⁸⁶	$\frac{185.95771}{185.95855}$	73n	2+0	8+0	18+0	4+14	0+20	1+6	0+0	$\frac{3.900M}{\beta^- 10.5m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p - T_{1/2}}$
$\frac{1489.33}{1489.0}$	Ta ¹⁸⁷ ₇₃	$\frac{186.96017}{186.96053}$	73n	2+0	8+0	18+0	2+15	1+20	1+5	0+1	$\frac{3.140M}{\beta^- 2.30m}$
$\frac{1493.70}{1494.1}$	Ta ¹⁸⁸ ₇₃	$\frac{187.96414}{187.96370}$	73n	2+0	8+0	18+0	2+15	0+20	1+6	0+1	$\frac{5.010M}{\beta^- 19.6s}$
$\frac{1489.33}{1489.0}$	Ta ¹⁸⁷ ₇₃	$\frac{186.96017}{186.96053}$	73n	2+0	8+0	18+0	2+15	1+20	1+5	0+1	$\frac{3.140M}{\beta^- 2.30m}$
$\frac{1493.70}{1494.1}$	Ta ¹⁸⁸ ₇₃	$\frac{187.96414}{187.96370}$	73n	2+0	8+0	18+0	2+15	0+20	1+6	0+1	$\frac{5.010M}{\beta^- 19.6s}$
$\frac{1499.81}{1500.2}$	Ta ¹⁸⁹ ₇₃	$\frac{188.96625}{188.96583}$	73n	2+0	8+0	18+0	2+15	0+20	0+7	0+1	$\frac{3.700M}{\beta^- 1.6\mu s}$
$\frac{1505.22}{1505.1}$	Ta ¹⁹⁰ ₇₃	$\frac{189.96910}{189.96923}$	73n	2+0	8+0	16+1	0+16	1+19	1+8	1+0	$\frac{5.600M}{\beta^- 5.30s}$
$\frac{1511.00}{-}$	Ta ¹⁹¹ ₇₃	$\frac{190.97136}{-}$	73n	2+0	8+0	16+1	0+16	0+19	1+9	1+0	$\frac{4.600M}{\beta^- >300ns}$
$\frac{1515.73}{-}$	Ta ¹⁹² ₇₃	$\frac{191.97515}{-}$	73n	2+0	8+0	16+1	0+16	0+19	0+10	1+0	$\frac{6.500M}{\beta^- 2.20s}$

$E_c(\text{MeV})$ = valore calcolato dell'energia di legame

$E_s(\text{MeV})$ = valore sperimentale dell'energia di legame

m_c = valore calcolato della massa atomica

m_s = valore sperimentale della massa atomica

n = numero di neutroni centrali attivi

1-7 = numero quantico associato al livello

$p + d$ = (numero di protoni) + (numero di deutoni) in orbita

$p - T_{1/2}$ = particella emessa – periodo di dimezzamento

$E_p(\text{eV})$ = energia della particella emessa