

TAVOLA PERIODICA DEI NUCLEI ATOMICI

configurazione dei livelli nucleari degli isotopi **TULIO** **Z = 69-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1143.43}{1144.2}$	Tm ₆₉ ¹⁴⁵	$\frac{144.97094}{144.97007}$	69n	2+0	8+0	18+0	24+0	8+0	1+7	1+0	$\frac{11.70M}{ce\ 3.17\mu s}$
$\frac{1155.85}{1155.7}$	Tm ₆₉ ¹⁴⁶	$\frac{145.96627}{145.96643}$	69n	2+0	8+0	18+0	25+0	7+1	0+7	1+0	$\frac{1.6427M}{p\ 80ms}$
$\frac{1168.28}{1168.9}$	Tm ₆₉ ¹⁴⁷	$\frac{146.96159}{146.96096}$	69n	2+0	8+0	18+0	26+0	4+3	1+6	1+0	$\frac{10.63M}{ce\ 580ms}$
$\frac{1179.03}{1179.8}$	Tm ₆₉ ¹⁴⁸	$\frac{147.95872}{147.95784}$	69n	2+0	8+0	18+0	27+0	2+4	1+6	1+0	$\frac{12.714M}{ce\ 700ms}$
$\frac{1192.86}{1192.7}$	Tm ₆₉ ¹⁴⁹	$\frac{148.95253}{148.95272}$	69n	2+0	8+0	18+0	27+1	1+4	1+6	1+0	$\frac{9.900M}{ce\ 0.90s}$
$\frac{1203.61}{1203.3}$	Tm ₆₉ ¹⁵⁰	$\frac{149.94966}{149.94996}$	69n	2+0	8+0	18+0	26+2	1+4	1+6	1+0	$\frac{11.34M}{ce\ 2.20s}$
$\frac{1216.04}{1215.6}$	Tm ₆₉ ¹⁵¹	$\frac{150.94498}{150.945483}$	69n	2+0	8+0	18+0	27+2	0+5	0+6	1+0	$\frac{7.490M}{ce\ 4.17s}$
$\frac{1224.12}{1224.6}$	Tm ₆₉ ¹⁵²	$\frac{151.94497}{151.94442}$	69n	2+0	8+0	18+0	26+3	1+4	0+6	0+1	$\frac{8.730M}{ce\ 8.0s}$
$\frac{1235.14}{1234.9}$	Tm ₆₉ ¹⁵³	$\frac{152.94180}{152.942012}$	69n	2+0	8+0	18+0	26+3	0+6	0+5	0+1	$\frac{6.484M}{\alpha\ 1.48s}$
$\frac{1242.82}{1243.4}$	Tm ₆₉ ¹⁵⁴	$\frac{153.94222}{153.941568}$	69n	2+0	8+0	18+0	24+4	1+6	0+5	0+1	$\frac{5.094M}{\alpha\ 8.10s}$
$\frac{1253.17}{1253.7}$	Tm ₆₉ ¹⁵⁵	$\frac{154.93978}{154.939199}$	69n	2+0	8+0	18+0	22+5	1+7	0+5	1+0	$\frac{5.583M}{ce\ 21.6s}$
$\frac{1262.52}{1262.0}$	Tm ₆₉ ¹⁵⁶	$\frac{155.93840}{155.93898}$	69n	2+0	8+0	18+0	20+6	1+8	1+4	1+0	$\frac{7.370M}{ce\ 83.8s}$
$\frac{1271.87}{1271.9}$	Tm ₆₉ ¹⁵⁷	$\frac{156.93703}{156.93697}$	69n	2+0	8+0	18+0	20+6	1+9	0+4	1+0	$\frac{4.700M}{ce\ 3.63m}$
$\frac{1279.56}{1280.0}$	Tm ₆₉ ¹⁵⁸	$\frac{157.93744}{157.93698}$	69n	2+0	8+0	18+0	20+6	0+10	0+4	1+0	$\frac{6.600M}{ce\ 3.98m}$
$\frac{1289.57}{1289.9}$	Tm ₆₉ ¹⁵⁹	$\frac{158.93536}{158.93498}$	69n	2+0	8+0	18+0	18+7	1+11	1+2	0+1	$\frac{3.990M}{ce\ 9.13m}$
$\frac{1297.25}{1297.7}$	Tm ₆₉ ¹⁶⁰	$\frac{159.93578}{159.93526}$	69n	2+0	8+0	18+0	18+7	0+12	1+2	0+1	$\frac{5.760M}{ce\ 9.40m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1307.60}{1307.4}$	Tm ₆₉ ¹⁶¹	$\frac{160.93333}{160.93355}$	69n	2+0	8+0	18+0	16+8	0+13	1+2	1+0	$\frac{3.300M}{ce\ 30.2m}$
$\frac{1314.63}{1315.1}$	Tm ₆₉ ¹⁶²	$\frac{161.93445}{161.93395}$	69n	2+0	8+0	18+0	16+8	0+13	1+3	0+0	$\frac{4.860M}{ce\ 21.70m}$
$\frac{1323.98}{1324.4}$	Tm ₆₉ ¹⁶³	$\frac{162.93308}{162.93261}$	69n	2+0	8+0	18+0	16+8	0+14	0+3	0+0	$\frac{2.439M}{ce\ 1.810h}$
$\frac{1331.65}{1331.6}$	Tm ₆₉ ¹⁶⁴	$\frac{163.93351}{163.93356}$	69n	2+0	8+0	18+0	14+9	1+14	0+3	0+0	$\frac{4.038M}{ce\ 2.0m}$
$\frac{1341.01}{1340.7}$	Tm ₆₉ ¹⁶⁵	$\frac{164.93213}{164.93245}$	69n	2+0	8+0	18+0	12+10	1+15	1+2	0+0	$\frac{1.5917M}{ce\ 30.06h}$
$\frac{1348.69}{1347.8}$	Tm ₆₉ ¹⁶⁶	$\frac{165.93255}{165.93354}$	69n	2+0	8+0	18+0	12+10	0+16	1+2	0+0	$\frac{3.038M}{ce\ 7.70h}$
$\frac{1358.04}{1356.5}$	Tm ₆₉ ¹⁶⁷	$\frac{166.93117}{166.93285}$	69n	2+0	8+0	18+0	12+10	0+17	0+2	0+0	$\frac{746.8K}{ce\ 9.25d}$
$\frac{1364.05}{1363.3}$	Tm ₆₉ ¹⁶⁸	$\frac{167.93339}{167.93417}$	69n	2+0	8+0	18+0	10+11	0+17	1+2	0+0	$\frac{268.2K}{ce\ 93.1d}$
$\frac{1371.73}{1371.4}$	Tm ₆₉ ¹⁶⁹	$\frac{168.93381}{168.93421}$	69n	2+0	8+0	18+0	8+12	1+17	1+2	0+0	st
$\frac{1377.75}{1377.9}$	Tm ₆₉ ¹⁷⁰	$\frac{169.93601}{169.93580}$	69n	2+0	8+0	18+0	8+12	1+17	0+3	0+0	$\frac{968.4K}{\beta^- 128.6d}$
$\frac{1385.43}{1385.4}$	Tm ₆₉ ¹⁷¹	$\frac{170.936429}{170.936429}$	69n	2+0	8+0	18+0	8+12	0+18	0+3	0+0	$\frac{96.6K}{\beta^- 1.92a}$
$\frac{1391.44}{1391.7}$	Tm ₆₉ ¹⁷²	$\frac{171.93864}{171.93840}$	69n	2+0	8+0	18+0	6+13	0+18	1+3	0+0	$\frac{1.881K}{\beta^- 63.6h}$
$\frac{1399.12}{1398.6}$	Tm ₆₉ ¹⁷³	$\frac{172.93906}{172.93960}$	69n	2+0	8+0	18+0	4+14	1+18	1+3	0+0	$\frac{1.298K}{\beta^- 8.24h}$
$\frac{1405.14}{1404.3}$	Tm ₆₉ ¹⁷⁴	$\frac{173.94126}{173.94217}$	69n	2+0	8+0	18+0	4+14	1+18	0+4	0+0	$\frac{3.080M}{\beta^- 5.40m}$
$\frac{1411.15}{1410.8}$	Tm ₆₉ ¹⁷⁵	$\frac{174.94348}{174.94384}$	69n	2+0	8+0	18+0	2+15	1+18	1+4	0+0	$\frac{2.390M}{\beta^- 15.2m}$
$\frac{1416.15}{1415.9}$	Tm ₆₉ ¹⁷⁶	$\frac{175.94677}{175.94699}$	69n	2+0	8+0	18+0	0+16	1+18	1+4	1+0	$\frac{4.120M}{\beta^- 1.90m}$
$\frac{1422.17}{1422.1}$	Tm ₆₉ ¹⁷⁷	$\frac{176.94898}{176.94904}$	69n	2+0	8+0	18+0	0+16	1+18	0+5	1+0	$\frac{3.500M}{\beta^- 90.0s}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p - T_{1/2}}$
$\frac{1422.17}{1422.1}$	Tm ₆₉ ¹⁷⁷	$\frac{176.94898}{176.94904}$	69n	2+0	8+0	18+0	0+16	1+18	0+5	1+0	$\frac{3.500M}{\beta^- 90.0s}$
$\frac{1426.51}{1426.8}$	Tm ₆₉ ¹⁷⁸	$\frac{177.95298}{177.95264}$	69n	2+0	8+0	18+0	0+16	0+18	0+6	1+0	$\frac{5600M}{\beta^- 30s}$
$\frac{1432.52}{1432.4}$	Tm ₆₉ ¹⁷⁹	$\frac{178.95519}{178.95534}$	69n	2+0	8+0	16+1	0+16	0+18	1+6	1+0	$\frac{4.800M}{\beta^- 20s}$
$\frac{1436.85}{-}$	Tm ₆₉ ¹⁸⁰	$\frac{179.95921}{-}$	69n	2+0	8+0	14+2	0+16	1+17	1+7	1+0	$\frac{5.650M}{\beta^- 20s}$
$\frac{1441.86}{-}$	Tm ₆₉ ¹⁸¹	$\frac{180.96248}{-}$	69n	2+0	8+0	14+2	0+16	1+17	1+7	0+1	$\frac{5.140M}{\beta^-}$
$\frac{1446.21}{-}$	Tm ₆₉ ¹⁸²	$\frac{181.96649}{-}$	69n	2+0	8+0	14+2	0+16	0+17	1+8	0+1	$\frac{7.190M}{\beta^-}$

$E_c(\text{MeV})$ = 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