

TAVOLA PERIODICA DEI NUCLEI ATOMICI

configurazione dei livelli nucleari degli isotopi **NEODIMIO Z = 60-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{998.525}{998.41}$	Nd ₆₀ ¹²⁴	$\frac{123.95210}{123.95223}$	60n	2+0	8+0	18+0	16+0	11+2	1+2	0+0	$\frac{8.700M}{ce500ms}$
$\frac{1010.30}{1009.6}$	Nd ₆₀ ¹²⁵	$\frac{124.94812}{124.94888}$	60n	2+0	8+0	18+0	17+0	10+3	0+2	0+0	$\frac{1.00M}{ce650ms}$
$\frac{1023.39}{1022.9}$	Nd ₆₀ ¹²⁶	$\frac{125.94273}{125.94322}$	60n	2+0	8+0	18+0	19+0	7+4	0+2	0+0	$\frac{7.500M}{ce>200ns}$
$\frac{1033.85}{1033.5}$	Nd ₆₀ ¹²⁷	$\frac{126.94017}{126.94050}$	60n	2+0	8+0	18+0	19+0	6+6	0+1	0+0	$\frac{9.00M}{ce1.80s}$
$\frac{1046.94}{1046.4}$	Nd ₆₀ ¹²⁸	$\frac{127.93478}{127.93539}$	60n	2+0	8+0	18+0	21+0	3+7	0+1	0+0	$\frac{6.260M}{ce5.0s}$
$\frac{1057.15}{1056.5}$	Nd ₆₀ ¹²⁹	$\frac{128.93248}{128.93319}$	60n	2+0	8+0	18+0	22+2	1+8	0+1	0+0	$\frac{7.540M}{ce4.90s}$
$\frac{1068.92}{1068.9}$	Nd ₆₀ ¹³⁰	$\frac{129.92851}{129.92851}$	60n	2+0	8+0	18+0	21+1	0+9	1+0	0+0	$\frac{4.580M}{ce21.0s}$
$\frac{1077.57}{1078.2}$	Nd ₆₀ ¹³¹	$\frac{130.92789}{130.92725}$	60n	2+0	8+0	18+0	20+2	1+8	0+1	0+0	$\frac{6.530M}{ce25.4s}$
$\frac{1089.34}{1089.9}$	Nd ₆₀ ¹³²	$\frac{131.92392}{131.923321}$	60n	2+0	8+0	18+0	19+3	0+9	1+0	0+0	$\frac{3.790M}{ce94.0s}$
$\frac{1099.55}{1098.9}$	Nd ₆₀ ¹³³	$\frac{132.92163}{132.92235}$	60n	2+0	8+0	18+0	18+4	0+9	1+0	0+0	$\frac{5.610M}{ce70.0s}$
$\frac{1109.76}{1110.3}$	Nd ₆₀ ¹³⁴	$\frac{133.91933}{133.91879}$	60n	2+0	8+0	18+0	17+5	0+9	1+0	0+0	$\frac{2.870M}{ce8.50m}$
$\frac{1118.97}{1118.9}$	Nd ₆₀ ¹³⁵	$\frac{134.91811}{134.918181}$	60n	2+0	8+0	18+0	16+8	0+3	1+4	0+0	$\frac{4.722M}{ce12.4m}$
$\frac{1130.17}{1130.0}$	Nd ₆₀ ¹³⁶	$\frac{135.91475}{135.914976}$	60n	2+0	8+0	18+0	15+7	0+9	1+0	0+0	$\frac{2.130M}{ce50.65m}$
$\frac{1138.82}{1138.4}$	Nd ₆₀ ¹³⁷	$\frac{136.91413}{136.914567}$	60n	2+0	8+0	18+0	14+8	1+8	0+1	0+0	$\frac{3.594M}{ce38.5m}$
$\frac{1149.03}{1148.9}$	Nd ₆₀ ¹³⁸	$\frac{137.91183}{137.91195}$	60n	2+0	8+0	18+0	13+9	1+8	0+1	0+0	$\frac{1.109M}{ce5.04h}$
$\frac{1156.37}{1157.0}$	Nd ₆₀ ¹³⁹	$\frac{138.91262}{138.911978}$	60n	2+0	8+0	18+0	13+9	0+9	0+1	0+0	$\frac{2.129M}{ce4.41h}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1166.57}{1167.3}$	Nd ¹⁴⁰ ₆₀	$\frac{139.91033}{139.90955}$	60n	2+0	8+0	18+0	12+10	0+9	0+1	0+0	$\frac{440.0K}{ce\ 3.37d}$
$\frac{1175.47}{1175.3}$	Nd ¹⁴¹ ₆₀	$\frac{140.90944}{140.90961}$	60n	2+0	8+0	18+0	10+11	0+10	1+0	0+0	$\frac{1.823M}{ce\ 2.49h}$
$\frac{1184.37}{1185.1}$	Nd ¹⁴² ₆₀	$\frac{141.90855}{141.907723}$	60n	2+0	8+0	18+0	10+11	0+11	0+0	0+0	$\frac{st}{27.2\%}$
$\frac{1191.70}{1191.3}$	Nd ¹⁴³ ₆₀	$\frac{142.90935}{142.909814}$	60n	2+0	8+0	18+0	8+12	1+11	0+0	0+0	$\frac{st}{12.2\%}$
$\frac{1199.03}{1199.1}$	Nd ¹⁴⁴ ₆₀	$\frac{143.91014}{143.910087}$	60n	2+0	8+0	18+0	8+12	0+12	0+0	0+0	$\frac{1.9064M}{\alpha\ 2.29\cdot 10^{15}a}$ 23.8%
$\frac{1204.80}{1204.8}$	Nd ¹⁴⁵ ₆₀	$\frac{144.912574}{144.912574}$	60n	2+0	8+0	18+0	6+13	0+12	1+0	0+0	$\frac{st}{8.3\%}$
$\frac{1212.13}{1212.4}$	Nd ¹⁴⁶ ₆₀	$\frac{145.91341}{145.913117}$	60n	2+0	8+0	18+0	4+14	1+12	1+0	0+0	$\frac{st}{17.2\%}$
$\frac{1217.89}{1217.7}$	Nd ¹⁴⁷ ₆₀	$\frac{146.91589}{146.916100}$	60n	2+0	8+0	18+0	4+14	1+12	0+1	0+0	$\frac{895.5K}{\beta^- 10.98d}$
$\frac{1225.25}{1225.0}$	Nd ¹⁴⁸ ₆₀	$\frac{147.91665}{147.916893}$	60n	2+0	8+0	18+0	4+14	0+13	0+1	0+0	$\frac{1.9289M}{2\beta^- 3\cdot 10^{18}a}$ 5.7%
$\frac{1229.45}{1230.1}$	Nd ¹⁴⁹ ₆₀	$\frac{148.92081}{148.920149}$	60n	2+0	8+0	18+0	2+15	1+12	0+2	0+0	$\frac{1.6892M}{\beta^- 1.728h}$
$\frac{1236.78}{1237.4}$	Nd ¹⁵⁰ ₆₀	$\frac{149.92161}{149.920891}$	60n	2+0	8+0	18+0	2+15	0+13	0+2	0+0	$\frac{3.3672M}{2\beta^- 7.9\cdot 10^{18}a}$ 5.6%
$\frac{1242.55}{1242.8}$	Nd ¹⁵¹ ₆₀	$\frac{150.92408}{150.923829}$	60n	2+0	8+0	18+0	0+16	0+13	1+2	0+0	$\frac{2.442M}{\beta^- 12.44m}$
$\frac{1249.88}{1250.1}$	Nd ¹⁵² ₆₀	$\frac{151.92487}{151.924682}$	60n	2+0	8+0	16+1	0+16	1+13	1+2	0+0	$\frac{1.104M}{\beta^- 11.4m}$
$\frac{1255.65}{1255.3}$	Nd ¹⁵³ ₆₀	$\frac{152.92734}{152.927698}$	60n	2+0	8+0	16+1	0+16	1+13	0+3	0+0	$\frac{3.336M}{\beta^- 31.6s}$
$\frac{1261.41}{1261.7}$	Nd ¹⁵⁴ ₆₀	$\frac{153.92982}{153.92948}$	60n	2+0	8+0	14+2	0+16	1+13	1+3	0+0	$\frac{2.810M}{\beta^- 25.9s}$
$\frac{1267.19}{1266.6}$	Nd ¹⁵⁵ ₆₀	$\frac{154.93228}{154.93293}$	60n	2+0	8+0	14+2	0+16	1+13	0+4	0+0	$\frac{4.500M}{\beta^- 8.90s}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1272.01}{1272.7}$	Nd ₆₀ ¹⁵⁶	$\frac{155.93577}{155.93502}$	60n	2+0	8+0	12+3	0+16	1+13	0+4	1+0	$\frac{3.690M}{\beta^- 5.06s}$
$\frac{1276.84}{1277.0}$	Nd ₆₀ ¹⁵⁷	$\frac{156.93925}{156.93903}$	60n	2+0	8+0	12+3	0+16	1+13	0+4	0+1	$\frac{5.570M}{\beta^- 2s}$
$\frac{1282.60}{1282.7}$	Nd ₆₀ ¹⁵⁸	$\frac{157.94174}{157.94160}$	60n	2+0	8+0	10+4	0+16	1+13	1+4	0+1	$\frac{4.700M}{\beta^- 700ms}$
$\frac{1286.81}{1286.6}$	Nd ₆₀ ¹⁵⁹	$\frac{158.94588}{158.94609}$	60n	2+0	8+0	10+4	0+16	0+13	1+5	0+1	$\frac{6.600M}{\beta^- 500ms}$
$\frac{1292.59}{1291.9}$	Nd ₆₀ ¹⁶⁰	$\frac{159.94834}{159.94909}$	60n	2+0	8+0	10+4	0+16	0+13	0+6	0+1	$\frac{5.700M}{\beta^- 300ms}$
$\frac{1295.22}{1295.5}$	Nd ₆₀ ¹⁶¹	$\frac{160.95418}{160.95388}$	60n	2+0	8+0	8+5	0+16	0+12	1+7	0+1	$\frac{7.500M}{\beta^- 200ms}$
$\frac{1299.43}{-}$	Nd ₆₀ ¹⁶²	$\frac{161.95833}{-}$	60n	2+0	8+0	6+6	0+16	1+11	1+8	0+1	$\frac{6.670M}{\beta^-}$
$\frac{1303.64}{-}$	Nd ₆₀ ¹⁶³	$\frac{162.96247}{-}$	60n	2+0	8+0	6+6	0+16	0+11	1+9	0+1	$\frac{7.360M}{\beta^-}$
$\frac{1307.84}{-}$	Nd ₆₀ ¹⁶⁴	$\frac{163.96663}{-}$	60n	2+0	8+0	4+7	0+16	1+10	1+10	0+1	$\frac{6.550M}{\beta^-}$

$E_c(\text{MeV})$ = 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