

TAVOLA PERIODICA DEI NUCLEI ATOMICI

configurazione dei livelli nucleari degli isotopi **BISMUTO Z = 83-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1419.18}{1419.1}$	Bi ¹⁸⁴ ₈₃	$\frac{184.001083}{184.00112}$	83n	2+0	8+0	18+0	32+0	4+7	0+11	1+0	$\frac{8.020M}{\alpha 13.0ms}$
$\frac{1430.90}{1430.5}$	Bi ¹⁸⁵ ₈₃	$\frac{184.99717}{184.99763}$	83n	2+0	8+0	18+0	32+0	3+9	0+10	1+0	$\frac{2.060M}{p 58\mu s}$
$\frac{1439.02}{1439.5}$	Bi ¹⁸⁶ ₈₃	$\frac{185.99711}{185.99660}$	83n	2+0	8+0	18+0	32+0	2+10	0+10	1+0	$\frac{7.757M}{\alpha 15.0ms}$
$\frac{1450.74}{1450.8}$	Bi ¹⁸⁷ ₈₃	$\frac{186.99320}{186.993158}$	83n	2+0	8+0	18+0	32+0	1+12	0+9	1+0	$\frac{8.605M}{\alpha 37.0ms}$
$\frac{1459.58}{1459.7}$	Bi ¹⁸⁸ ₈₃	$\frac{187.99237}{187.99227}$	83n	2+0	8+0	18+0	32+0	1+13	0+8	0+1	$\frac{7.259M}{\alpha 265ms}$
$\frac{1470.58}{1470.6}$	Bi ¹⁸⁹ ₈₃	$\frac{188.98920}{188.98920}$	83n	2+0	8+0	18+0	30+1	1+14	0+8	1+0	$\frac{7.267M}{\alpha 674ms}$
$\frac{1479.42}{1479.5}$	Bi ¹⁹⁰ ₈₃	$\frac{189.98840}{189.98830}$	83n	2+0	8+0	18+0	30+1	1+15	0+7	0+1	$\frac{6.863M}{\alpha 6.30s}$
$\frac{1490.42}{1489.9}$	Bi ¹⁹¹ ₈₃	$\frac{190.98526}{190.985786}$	83n	2+0	8+0	18+0	28+2	1+16	0+7	1+0	$\frac{6.778M}{\alpha 12.4s}$
$\frac{1498.54}{1498.3}$	Bi ¹⁹² ₈₃	$\frac{191.98521}{191.98546}$	83n	2+0	8+0	18+0	28+2	0+17	0+7	1+0	$\frac{9.010M}{ce 34.6s}$
$\frac{1508.45}{1508.7}$	Bi ¹⁹³ ₈₃	$\frac{192.98323}{192.98296}$	83n	2+0	8+0	18+0	26+3	0+18	1+6	1+0	$\frac{6.320M}{ce 63.6s}$
$\frac{1516.57}{1516.9}$	Bi ¹⁹⁴ ₈₃	$\frac{193.98318}{193.98283}$	83n	2+0	8+0	18+0	24+4	1+18	1+6	1+0	$\frac{8.241M}{ce 95.0s}$
$\frac{1526.49}{1527.0}$	Bi ¹⁹⁵ ₈₃	$\frac{194.98119}{194.980651}$	83n	2+0	8+0	18+0	24+4	1+19	0+6	1+0	$\frac{5.688M}{ce 183s}$
$\frac{1534.61}{1535.1}$	Bi ¹⁹⁶ ₈₃	$\frac{195.98114}{195.980667}$	83n	2+0	8+0	18+0	24+4	0+20	0+6	1+0	$\frac{7.350M}{ce 308s}$
$\frac{1544.52}{1544.8}$	Bi ¹⁹⁷ ₈₃	$\frac{196.97917}{196.978864}$	83n	2+0	8+0	18+0	22+5	0+21	1+5	1+0	$\frac{5.062M}{ce 9.33m}$
$\frac{1552.64}{1552.6}$	Bi ¹⁹⁸ ₈₃	$\frac{197.97912}{197.97921}$	83n	2+0	8+0	18+0	20+6	1+21	1+5	1+0	$\frac{6.680M}{ce 10.3m}$
$\frac{1562.56}{1562.1}$	Bi ¹⁹⁹ ₈₃	$\frac{198.97713}{198.977672}$	83n	2+0	8+0	18+0	20+6	1+22	0+5	1+0	$\frac{4.433M}{ce 27.0m}$
$\frac{1569.59}{1569.7}$	Bi ²⁰⁰ ₈₃	$\frac{199.97825}{199.978132}$	83n	2+0	8+0	18+0	20+6	0+23	1+4	0+1	$\frac{5.880M}{ce 36.4m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1578.79}{1578.8}$	Bi_{83}^{201}	$\frac{200.977009}{200.977009}$	83n	2+0	8+0	18+0	18+7	1+23	0+5	1+0	$\frac{3.840\text{M}}{ce\ 103\text{m}}$
$\frac{1586.91}{1586.2}$	Bi_{83}^{202}	$\frac{201.97699}{201.97742}$	83n	2+0	8+0	18+0	18+7	0+24	0+5	1+0	$\frac{5.195\text{K}}{ce\ 1.71\text{h}}$
$\frac{1594.31}{1595.1}$	Bi_{83}^{203}	$\frac{202.97771}{202.976876}$	83n	2+0	8+0	18+0	18+7	0+24	0+6	0+0	$\frac{3.263\text{M}}{ce\ 11.76\text{h}}$
$\frac{1602.43}{1602.3}$	Bi_{83}^{204}	$\frac{203.97765}{203.977813}$	83n	2+0	8+0	18+0	16+8	1+24	0+6	0+0	$\frac{4.465\text{M}}{ce\ 11.22\text{h}}$
$\frac{1610.55}{1610.7}$	Bi_{83}^{205}	$\frac{204.97760}{204.977389}$	83n	2+0	8+0	18+0	16+8	0+25	0+6	0+0	$\frac{2.706\text{M}}{ce\ 15.31\text{d}}$
$\frac{1616.86}{1617.8}$	Bi_{83}^{206}	$\frac{205.97949}{205.978499}$	83n	2+0	8+0	18+0	14+9	0+25	1+6	0+0	$\frac{3.758\text{M}}{ce\ 6.243\text{d}}$
$\frac{1623.18}{1625.9}$	Bi_{83}^{207}	$\frac{206.98137}{206.978471}$	83n	2+0	8+0	18+0	14+9	0+25	0+7	0+0	$\frac{2.3974\text{M}}{ce\ 31.55\text{a}}$
$\frac{1629.49}{1632.8}$	Bi_{83}^{208}	$\frac{207.98326}{207.979742}$	83n	2+0	8+0	18+0	12+10	0+25	1+7	0+0	$\frac{2.8784\text{M}}{ce\ 3.68 \cdot 10^5\text{h}}$
$\frac{1635.81}{1640.23}$	Bi_{83}^{209}	$\frac{208.98514}{208.980399}$	83n	2+0	8+0	18+0	12+10	0+25	0+8	0+0	$\frac{3.1373\text{M}}{\alpha\ 1.9 \cdot 10^{19}\text{a}}_{100\%}$
$\frac{1642.12}{1644.6}$	Bi_{83}^{210}	$\frac{209.98703}{209.984412}$	83n	2+0	8+0	18+0	10+11	0+25	1+8	0+0	$\frac{1.1612\text{M}}{\beta^- 5.012\text{d}}$
$\frac{1648.43}{1650.0}$	Bi_{83}^{211}	$\frac{210.98892}{210.987269}$	83n	2+0	8+0	18+0	10+11	0+25	0+9	0+0	$\frac{6.7503\text{M}}{\alpha\ 2.14\text{m}}$
$\frac{1654.75}{1654.3}$	Bi_{83}^{212}	$\frac{211.99080}{211.991286}$	83n	2+0	8+0	18+0	8+12	0+25	1+9	0+0	$\frac{2.2501\text{M}}{\beta^- 60.55\text{m}}$
$\frac{1659.27}{1659.5}$	Bi_{83}^{213}	$\frac{212.99462}{212.994385}$	83n	2+0	8+0	18+0	8+12	1+24	1+10	0+0	$\frac{1.424\text{M}}{\beta^- 45.59\text{m}}$
$\frac{1663.40}{1663.5}$	Bi_{83}^{214}	$\frac{213.99885}{213.998712}$	83n	2+0	8+0	18+0	6+13	1+24	0+10	0+1	$\frac{7.83346\text{M}}{\alpha\ 164.3\mu\text{s}}$
$\frac{1669.72}{1668.7}$	Bi_{83}^{215}	$\frac{215.000728}{215.001770}$	83n	2+0	8+0	18+0	4+14	1+24	1+10	0+1	$\frac{2.189\text{M}}{\beta^- 7.60\text{m}}$
$\frac{1672.43}{1672.6}$	Bi_{83}^{216}	$\frac{216.00648}{216.006306}$	83n	2+0	8+0	18+0	4+14	1+23	0+12	0+1	$\frac{4.096\text{M}}{\beta^- 2.25\text{m}}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p - T_{1/2}}$
$\frac{1676.94}{1677.7}$	Bi ₈₃ ²¹⁷	$\frac{217.01031}{217.00947}$	83n	2+0	8+0	18+0	4+14	0+23	0+13	0+1	$\frac{3.00M}{\beta^- 98.5s}$
$\frac{1681.46}{1681.3}$	Bi ₈₃ ²¹⁸	$\frac{218.01412}{218.01432}$	83n	2+0	8+0	18+0	2+15	1+22	0+14	0+1	$\frac{4.800M}{\beta^- 33.0s}$
$\frac{1685.97}{-}$	Bi ₈₃ ²¹⁹	$\frac{219.01794}{-}$	83n	2+0	8+0	18+0	2+15	0+22	0+15	0+1	$\frac{3.800M}{\beta^- >300ns}$
$\frac{1690.48}{-}$	Bi ₈₃ ²²⁰	$\frac{220.02177}{-}$	83n	2+0	8+0	18+0	0+16	1+21	0+16	0+1	$\frac{5.400M}{\beta^- >300ns}$
$\frac{1693.18}{-}$	Bi ₈₃ ²²¹	$\frac{221.02753}{-}$	83n	2+0	8+0	16+1	0+16	1+20	1+17	0+1	$\frac{4.200M}{\beta^- >300ns}$

E_c (MeV) = valore calcolato dell'energia di legame

E_s (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 (eV) = energia della particella emessa