

## TAVOLA PERIODICA DEI NUCLEI ATOMICI

### configurazione dei livelli nucleari degli isotopi **ANTIMONIO Z = 51-a**

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{847.219}{847.62}$	$\text{Sb}_{51}^{103}$	$\frac{102.94013}{102.93969}$	51n	2+0	8+0	18+0	12+0	8+0	2+1	0+0	$\frac{10.80M}{ce > 1.5\mu s}$
$\frac{858.231}{858.70}$	$\text{Sb}_{51}^{104}$	$\frac{103.93697}{103.93647}$	51n	2+0	8+0	18+0	13+0	7+1	1+1	0+0	$\frac{12.45M}{ce 440ms}$
$\frac{871.664}{871.41}$	$\text{Sb}_{51}^{105}$	$\frac{104.93121}{104.93149}$	51n	2+0	8+0	18+0	16+0	4+1	0+2	0+0	$\frac{9.485M}{ce 1.22s}$
$\frac{881.465}{881.99}$	$\text{Sb}_{51}^{106}$	$\frac{105.92936}{105.92879}$	51n	2+0	8+0	18+0	16+0	3+3	0+1	0+0	$\frac{10.880M}{ce 600ms}$
$\frac{894.894}{894.39}$	$\text{Sb}_{51}^{107}$	$\frac{106.92360}{106.92415}$	51n	2+0	8+0	18+0	17+1	0+3	1+1	0+0	$\frac{7.859M}{ce 4.0s}$
$\frac{904.465}{904.31}$	$\text{Sb}_{51}^{108}$	$\frac{107.92199}{107.92216}$	51n	2+0	8+0	18+0	16+2	0+3	1+1	0+0	$\frac{9.626M}{ce 7.40s}$
$\frac{915.475}{916.13}$	$\text{Sb}_{51}^{109}$	$\frac{108.91884}{108.918132}$	51n	2+0	8+0	18+0	15+3	1+3	0+1	0+0	$\frac{6.382M}{ce 17.0s}$
$\frac{925.047}{925.49}$	$\text{Sb}_{51}^{110}$	$\frac{109.91723}{109.91675}$	51n	2+0	8+0	18+0	14+4	1+3	0+1	0+0	$\frac{8.394M}{ce 23.0s}$
$\frac{937.266}{936.91}$	$\text{Sb}_{51}^{111}$	$\frac{110.91278}{110.91316}$	51n	2+0	8+0	18+0	14+5	0+3	0+1	0+0	$\frac{5.105M}{ce 75.0s}$
$\frac{945.627}{945.69}$	$\text{Sb}_{51}^{112}$	$\frac{111.91246}{111.912398}$	51n	2+0	8+0	18+0	12+6	0+4	1+0	0+0	$\frac{7.057M}{ce 51.4s}$
$\frac{956.409}{956.58}$	$\text{Sb}_{51}^{113}$	$\frac{112.90955}{112.909372}$	51n	2+0	8+0	18+0	12+7	0+3	0+1	0+0	$\frac{3.913M}{ce 6.67m}$
$\frac{964.770}{964.75}$	$\text{Sb}_{51}^{114}$	$\frac{113.90924}{113.90927}$	51n	2+0	8+0	18+0	10+8	0+4	1+0	0+0	$\frac{6.063M}{ce 3.49m}$
$\frac{975.553}{975.31}$	$\text{Sb}_{51}^{115}$	$\frac{114.90633}{114.906598}$	51n	2+0	8+0	18+0	10+9	0+3	0+1	0+0	$\frac{3.030M}{ce 32.1m}$
$\frac{982.477}{983.19}$	$\text{Sb}_{51}^{116}$	$\frac{115.90756}{115.906794}$	51n	2+0	8+0	18+0	8+10	0+4	1+0	0+0	$\frac{4.704M}{ce 15.8m}$
$\frac{993.485}{993.09}$	$\text{Sb}_{51}^{117}$	$\frac{116.90441}{116.904836}$	51n	2+0	8+0	18+0	7+11	0+4	1+0	0+0	$\frac{1.755M}{ce 2.80h}$
$\frac{1000.41}{1000.5}$	$\text{Sb}_{51}^{118}$	$\frac{117.90564}{117.905529}$	51n	2+0	8+0	18+0	5+12	1+4	1+0	0+0	$\frac{3.657M}{ce 3.60m}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p \cdot T^{1/2}}$
$\frac{1009.98}{1010.1}$	Sb <sub>51</sub> <sup>119</sup>	$\frac{118.90403}{118.903942}$	51n	2+0	8+0	18+0	4+13	1+4	1+0	0+0	$\frac{591.0K}{ce38.19h}$
$\frac{1016.91}{1017.1}$	Sb <sub>51</sub> <sup>120</sup>	$\frac{119.90526}{119.905072}$	51n	2+0	8+0	18+0	4+13	0+5	1+0	0+0	$\frac{2.681M}{ce15.89m}$
$\frac{1026.48}{1026.3}$	Sb <sub>51</sub> <sup>121</sup>	$\frac{120.90365}{120.903816}$	51n	2+0	8+0	18+0	3+14	0+5	1+0	0+0	$\frac{st}{57.21\%}$
$\frac{1033.403}{1033.1}$	Sb <sub>51</sub> <sup>122</sup>	$\frac{121.90488}{121.905174}$	51n	2+0	8+0	18+0	1+15	1+5	1+0	0+0	$\frac{1.9809M}{ce2.7238d}$
$\frac{1041.54}{1042.1}$	Sb <sub>51</sub> <sup>123</sup>	$\frac{122.90481}{122.904214}$	51n	2+0	8+0	18+0	2+15	0+5	0+1	0+0	$\frac{st}{42.79\%}$
$\frac{1048.47}{1048.6}$	Sb <sub>51</sub> <sup>124</sup>	$\frac{123.90604}{123.905936}$	51n	2+0	8+0	18+0	0+16	1+5	0+1	0+0	$\frac{2.9043M}{\beta^-60.20d}$
$\frac{1056.82}{1057.3}$	Sb <sub>51</sub> <sup>125</sup>	$\frac{124.90574}{124.905254}$	51n	2+0	8+0	16+1	0+16	1+6	1+0	0+0	$\frac{766.7K}{\beta^-2.75856a}$
$\frac{1063.75}{1063.5}$	Sb <sub>51</sub> <sup>126</sup>	$\frac{125.90697}{125.90725}$	51n	2+0	8+0	16+1	0+16	0+7	1+0	0+0	$\frac{3.670M}{\beta^-12.35d}$
$\frac{1072.11}{1071.9}$	Sb <sub>51</sub> <sup>127</sup>	$\frac{126.90665}{126.906924}$	51n	2+0	8+0	16+1	0+16	0+8	0+0	0+0	$\frac{1.582M}{\beta^-3.85d}$
$\frac{1077.59}{1077.8}$	Sb <sub>51</sub> <sup>128</sup>	$\frac{127.90943}{127.909169}$	51n	2+0	8+0	14+2	0+16	0+8	1+0	0+0	$\frac{4.384M}{\beta^-9.01h}$
$\frac{1085.96}{1085.9}$	Sb <sub>51</sub> <sup>129</sup>	$\frac{128.90911}{128.909148}$	51n	2+0	8+0	14+2	0+16	0+9	0+0	0+0	$\frac{2.376M}{\beta^-4.40h}$
$\frac{1091.44}{1091.7}$	Sb <sub>51</sub> <sup>130</sup>	$\frac{129.91190}{129.911656}$	51n	2+0	8+0	12+3	0+16	0+9	1+0	0+0	$\frac{5.063M}{\beta^-39.5m}$
$\frac{1098.36}{1099.4}$	Sb <sub>51</sub> <sup>131</sup>	$\frac{130.91313}{130.911982}$	51n	2+0	8+0	10+4	0+16	1+9	1+0	0+0	$\frac{3.235M}{\beta^-23.03m}$
$\frac{1105.28}{1105.2}$	Sb <sub>51</sub> <sup>132</sup>	$\frac{131.91437}{131.914467}$	51n	2+0	8+0	10+4	0+16	0+10	1+0	0+0	$\frac{5.512M}{\beta^-2.79m}$
$\frac{1112.2}{1112.5}$	Sb <sub>51</sub> <sup>133</sup>	$\frac{132.91560}{132.915252}$	51n	2+0	8+0	8+5	0+16	1+10	1+0	0+0	$\frac{4.002M}{\beta^-2.34m}$
$\frac{1115.39}{1115.8}$	Sb <sub>51</sub> <sup>134</sup>	$\frac{133.92084}{133.92038}$	51n	2+0	8+0	8+5	0+16	0+10	0+1	1+0	$\frac{8.390M}{\beta^-780ms}$

$\frac{E_c(\text{MeV})}{E_s(\text{MeV})}$	Sa	$\frac{m_c}{m_s}$	n	1	2	3	4	5	6	7	$\frac{E_p(\text{eV})}{p-T_{1/2}}$
$\frac{1119.43}{1119.4}$	Sb <sub>51</sub> <sup>135</sup>	$\frac{134.92517}{134.92517}$	51n	2+0	8+0	6+6	0+16	1+9	0+2	1+0	$\frac{8.120M}{\beta^- 1.679s}$
$\frac{1122.61}{1122.7}$	Sb <sub>51</sub> <sup>136</sup>	$\frac{135.93042}{135.93035}$	51n	2+0	8+0	6+6	0+16	0+9	1+2	0+1	$\frac{10.00M}{\beta^- 0.923s}$
$\frac{1126.08}{1126.1}$	Sb <sub>51</sub> <sup>137</sup>	$\frac{136.93531}{136.93531}$	51n	2+0	8+0	4+7	0+16	0+8	1+4	1+0	$\frac{8.900M}{\beta^- 492ms}$
$\frac{1129.27}{1129.1}$	Sb <sub>51</sub> <sup>138</sup>	$\frac{137.94060}{137.94079}$	51n	2+0	8+0	4+7	0+16	1+7	0+5	0+1	$\frac{10.90M}{\beta^- 350ms}$
$\frac{1131.88}{1132.3}$	Sb <sub>51</sub> <sup>139</sup>	$\frac{138.94647}{138.94598}$	51n	2+0	8+0	2+8	0+16	1+6	1+6	0+1	$\frac{10.10M}{\beta^- 93.0ms}$
$\frac{1135.93}{-}$	Sb <sub>51</sub> <sup>140</sup>	$\frac{139.95078}{-}$	51n	2+0	8+0	2+8	0+16	0+6	1+7	0+1	$\frac{6.070M}{n\beta^- >407ns}$
$\frac{1138.54}{-}$	Sb <sub>51</sub> <sup>141</sup>	$\frac{140.95664}{-}$	51n	2+0	8+0	2+8	0+16	0+5	0+9	0+1	$\frac{7.760M}{n\beta^-}$
$\frac{1141.36}{-}$	Sb <sub>51</sub> <sup>142</sup>	$\frac{141.96228}{-}$	51n	2+0	6+1	0+9	1+15	1+5	1+9	0+1	$\frac{7.540M}{n\beta^-}$
$\frac{1143.97}{-}$	Sb <sub>51</sub> <sup>143</sup>	$\frac{142.96815}{-}$	51n	2+0	6+1	0+9	1+15	1+4	0+11	0+1	$\frac{8.930M}{n\beta^-}$

$E_c(\text{MeV})$  = 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