

## Measurement of the 10 keV resonance in the $^{10}\text{B}(p, \alpha_0)^7\text{Be}$ reaction via the Trojan Horse method

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The  $^{10}\text{B}(p, \alpha_0)^7\text{Be}$  bare nucleus astrophysical  $S(E)$  factor has been measured for the first time at energies from about 100 keV down to about 5 keV by means of the Trojan Horse method (THM). In this energy region, the  $S(E)$  factor is strongly dominated by the 8.699 MeV  $^{11}\text{C}$  level ( $J^\pi = 5/2^+$ ), producing an s-wave resonance centered at about 10 keV in the entrance channel. Up to now, only the high-energy tail of this resonance has been measured, while the low-energy trend is extrapolated from the available direct data. The THM has been applied to the quasifree  $^2\text{H}(^{10}\text{B}, \alpha_0^7\text{Be})n$  reaction induced at a boron-beam energy of 24.5 MeV. An accurate analysis leads to the determination of the  $^{10}\text{B}(p, \alpha_0)^7\text{Be}$   $S(E)$  factor and of the corresponding electron screening potential  $U_e$ , thus giving for the first time an independent evaluation of it.

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