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Coulomb penetration and nuclear transmutations at sub-barrier reactions

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Many features of stellar evolution are mostly determined by nuclear reactions below the Coulomb barrier. Barrier penetrability and nuclear virtual process give main components of such reactions. The Trojan Horse Method [1,2] represents a useful framework for experimental test of the nuclear virtual reaction. Making use of such an approach we reveal deeply sub-barrier (p,x) reaction cross sections from quasi-free (d,nx) reaction data. Coulomb barrier penetration coefficient is calculated while taking into account the finiteness of nuclear potential of various shapes. In this contribution we analyze these components for nuclear processes important for Li/Be/B abundances, cf. [3,4] and refs. therein.

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