

# Subbarrier Fusion: A Historical Perspective and Recent Developments

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Fusion reactions below the Coulomb barrier provide new insights into multidimensional quantum tunneling, nuclear reaction dynamics and nuclear structure [1]. These reactions are also of considerable interest to nuclear astrophysics. The evolution of main sequence stars, in particular stellar nucleosynthesis is governed by subbarrier fusion [2]. This talk will first present a historical perspective particularly on the analysis of the data from the subbarrier fusion reactions. Secondly recent developments in the field will be reviewed. Open questions related to subbarrier fusion will be presented. Finally future directions especially in the applications of subbarrier fusion in astrophysics and cosmology will be explored.

[1] A. B. Balantekin and N. Takigawa, *Rev. Mod. Phys.* **70**, 77 (1998).

[2] E. G. Adelberger *et al.*, *Rev. Mod. Phys.* **70**, 1265 (1998).