

Light element burning $S(E)$ -factor as key input for nuclear astrophysics

Experimental nuclear astrophysics has to use often extrapolation procedures to access the relevant Gamow energy peak for astrophysically relevant burning reactions. Thanks to its recent developments, the Trojan Horse Method (THM) allows the experimentalist to investigate astrophysical energies by means of surrogate experiment in which a proper selection of the quasi-free reaction mechanism is performed. Thus, a detailed study of the burning reactions involving the light elements lithium (${}^7\text{Li}$ and ${}^6\text{Li}$ isotopes), beryllium and boron (${}^{10}\text{B}$ and ${}^{11}\text{B}$) has been performed and their results applied in properly selected astrophysical scenario.

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