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Coupled channel method with asymptotic coupling for heavy ion nuclear reactions

We have applied the new version of coupled channel method with asymptotic coupling of the exit channels to the computation fusion cross sections and the astrophysical S-factor of sub-barrier and above-barrier reactions to study the deep sub-barrier fusion hindrance phenomenon in [1, 2]. It applied also to study fusion reaction ^{40}Ca+^{208}Pb, leading to the formation of the transfermium nucleus ^{248}No [3]. The results obtained using modified KANTBP 3.1 code [4] and the modified Numerov method in the CCFULL code [5] were compared. For example, see fusion cross sections ^{64}Ni+^{100}Mo and ^{36}S+^{48}Ca in figures.

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The speaker is a student or young scientist

No

Section

1. Experimental and theoretical studies of nuclear reactions

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