

## FISSION-FRAGMENTS MASS DISTRIBUTION IN $^{246,249}\text{Bk}$ HEAVY ACTINIDE NUCLEI

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Issue related to formation of heavy  $^{246,249}\text{Bk}$  actinide elements have been addressed through the systematic fission study of  $^{11}\text{B} + ^{238,235}\text{U}$ ,  $^{14}\text{N} + ^{232}\text{Th}$  reactions at sub barrier energies. The reaction products, mainly fission fragments were detected by two large area multi-wire proportional counters. The present systematic observations include the experimental probes such as mass distribution, mass angle distribution, evaporation residue and fission cross section derived from angular distribution predictions. It is worthwhile to mention that  $^{235,238}\text{U}$  ( $\beta_2=0.215, 0.275, \dots$ ),  $^{232}\text{Th}$  ( $\beta_2=0.207$ ) targets nuclei having prolate deformations and mass asymmetry ( $\alpha$ ) for  $^{11}\text{B} + ^{235,238}\text{U}$  ( $\alpha = 0.910, 0.911$ ) reactions lying above Businaro Gallone (B.G) point while  $\alpha$  for  $^{14}\text{N} + ^{232}\text{Th}$  ( $\alpha = 0.886$ ) is lying below the B.G point. Hence present systematic fission study in the  $^{246,249}\text{Bk}$  actinide nuclei can help us to give intuitive understanding about the role of entrance channel variables like targets deformation, mass asymmetry in its formations.