

## Fission dynamics in the Super Heavy Nuclei

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Search for the new elements has been one of the major area of research activity in physics and chemistry over last few decades. Elements up to  $^{294}\text{Og}$  (atomic number  $Z = 118$ ) have been synthesized successfully using fusion evaporation route, where either double magic nuclei  $^{208}\text{Pb}$  (in the synthesis of  $Z = 104 - 113$ ) or  $^{48}\text{Ca}$  ( $Z = 114 - 118$ ) were extensively used due to extra stability achieved from their spherical shell structure. But for the synthesis of elements beyond  $Z = 118$ ,  $^{48}\text{Ca}$  beam can no longer be used as in that case the other reaction partner required would be highly radioactive and currently impossible to produce in sufficient quantities.

So it is extremely important to understand the reaction dynamics and its dependence on entrance channel parameters like shell structure, isospin asymmetry and ground state deformation of the reaction partners. A systematic study has been performed at the Australian National University using other possible beams  $^{50}\text{Ti}$ ,  $^{54}\text{Cr}$  along with  $^{48}\text{Ca}$  to understand the reaction dynamics which will be presented during the talk.

**Author:** Dr KAUSHIK BANERJEE (Department of Nuclear Physics, Australian National University, Canberra, Australia Variable Energy Cyclotron Centre, Kolkata, India)

**Presenter:** Dr KAUSHIK BANERJEE (Department of Nuclear Physics, Australian National University, Canberra, Australia Variable Energy Cyclotron Centre, Kolkata, India)

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