



Contribution ID: 7

Type: **not specified**

## Hybrid potential analysis of clustering in heavy and superheavy nuclei

Local core -cluster interaction of Saxon-Woods type functional form with parameters derived from Michigan-3-Yukawa (M3Y) microscopic potential model have been used to investigate the decay properties of heavy and superheavy nuclei.

Further applications of the potential model to the low lying spectra of heavy nuclei reveals its inadequacy in the internal structure consistent with earlier works.

The geometry of the interior is taken to be influenced by the possible core-cluster overlap.

An additional interaction in the interior taken to mimic the nucleon distribution in the overlap region is shown to improve the spectra.

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