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Evolution of binary fragmentation saddle configurations with excitation energy[1] JAN TOKE, University of Rochester — The dependence of binary fragmentation saddle shapes and saddle energies on excitation energy was studied within the interacting Fermi gas liquid drop model. Two different parameterizations of saddle shapes were explored - such as described by Cassini ovals and by families of stitched surfaces of revolution of quadratic functions. It was found that independently of the type of parameterization and largely due to the effects of surface entropy, the saddle-state energies decrease with increasing excitation energy, while saddle shapes become more compact. The latter is consistent with recent experimental observations of an effective or apparent vanishing of Coulomb energy with increasing excitation, as parameterized in the Berkeley version of the Fisher's droplet model. The findings are directly useful for the updating of statistical compound nucleus decay codes in their handling of the intermediate-mass fragment emission.

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Jan Toke
University of Rochester

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