

Abstract Submitted  
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**Nuclear Multifragmentation as Generalized Fission**<sup>1</sup> JAN TÖKE,  
UDO SCHRÖDER, University of Rochester — An explanation for the phenomenon  
of statistical nuclear multifragmentation is presented within the framework of ther-  
modynamical theory. Within this framework, multifragmentation occurs as a result  
of interplay between the disruptive Coulomb and/or centrifugal forces and cohesive  
surface free energy (surface tension) in a system undergoing fast statistical shape  
fluctuations – a process similar to binary fission, except that generalized to multi-  
fragment decay channels. The process sets in at elevated excitation energies where it  
relies on thermal reduction of surface tension. It is gentle in that it does not involve  
violent collective flows of matter. Rather, the highly excited and shape-fluctuating  
system gets torn apart slowly by Coulomb forces as, aided by decreasing surface free  
energy, it reaches on fast time scales any of the very many possible multifragment  
saddle configurations..

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