

Carbon cluster fragmentation

K.Béroff-Wohrer¹

¹Laboratoire des Collisions Atomiques et Moléculaires, UMR 8625, Paris Sud University and CNRS, 91405 Orsay Cedex, France

In this presentation I will begin with a review of the status of knowledge of carbon cluster fragmentation. I will show how experimental developments, and in particular the use of high velocity cluster beams, allowed large progresses in that topics. Results concerning the fragmentation of small carbon clusters C_n ($n \leq 10$) excited in high velocity collisions (HVC) will be presented, selected by the fragmenting cluster charge. The fragmentation of monocharged clusters, the best known case, will be presented and HVC results compared to those obtained in photodissociation and collision induced dissociation (CID). Fragmentation of neutral carbon clusters, much less documented, will be presented next and compared to recent statistical fragmentation theories. Finally we will present first extensive data for the fragmentation of multicharged carbon clusters and will discuss, in addition to main tendencies, perspectives for its theoretical interpretation.