

Molecular growth processes in Polycyclic Aromatic Hydrocarbon (PAH) clusters

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In this talk I present experimental indications of chemical reactions inside clusters of Pyrene ($C_{16}H_{10}$) molecules following collisions with keV ions. Such molecular growth processes result in molecules with masses greater than that of Pyrene itself. In connection to the experimental results I will also present the results of classical Molecular Dynamics simulations covering both the initial collisions and the reactions that take place afterwards. The simulations show a good agreement with the experimental distribution of molecular masses created in the collisions.