

ClusterTrap: Investigations of stored metal clusters

The talk will introduce methods that allow the storage of charged particles at rest in free space. After the discussion of the different trapping techniques (Penning, i.e. ion cyclotron resonance, traps vs. Paul, i.e. radio frequency, traps) and their advantages and disadvantages with regard to cluster research the ClusterTrap setup is described in more details.

The various investigations on metal clusters that have been performed over the years with this apparatus include

- collision-induced dissociation,
- (delayed) photofragmentation leading to an
- (almost) model-free determination of dissociation energies,
- radiative cooling,
- photodetachment of sensor molecules,
- production and investigation of higher (positive) charge states and
- production of “lower charge states”, i.e. multiply-anionic species.

For an updated list of publications of the Greifswald group of Atomic and Molecular Physics including the ClusterTrap articles see

http://www6.physik.uni-greifswald.de/ClusterTrap/Schweikhard/pub_list.html