

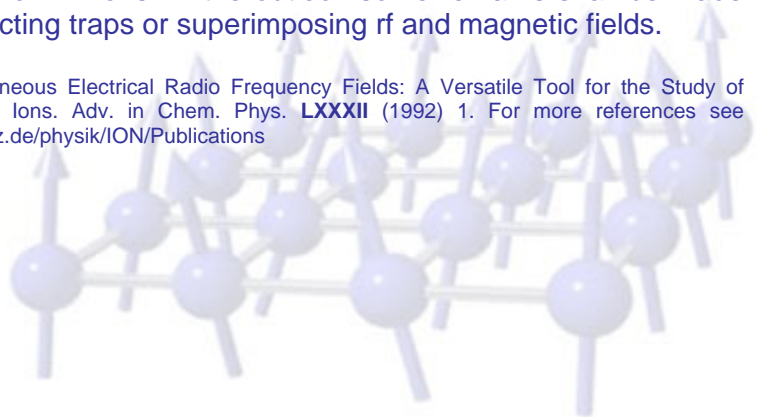


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Ion trapping in rf fields: applications in astrochemistry

In the last decades, many trapping instruments have been developed for studying the structure of molecular ions, various collision processes of ions (bimolecular reactions, radiative association, growth of clusters), and the physics and chemistry of charged nanoparticles. In the introduction of my talk, I briefly mention astrochemistry, a field, some of our experimental work has been motivated from. In the experimental part I will introduce into the theory and applications of inhomogeneous radio frequency fields created by suitable multi electrode arrangements (e.g. the 22-pole ion trap, for details see [1]). For the results section, I selected a few aspects of collisions between a beam of H-atoms with stored CH_x^+ or H^- ions. In the outlook some remarks shall be made concerning superconducting traps or superimposing rf and magnetic fields.

- [1] D. Gerlich, Inhomogeneous Electrical Radio Frequency Fields: A Versatile Tool for the Study of Processes with Slow Ions. Adv. in Chem. Phys. **LXXXII** (1992) 1. For more references see <http://www.tu-chemnitz.de/physik/ION/Publications>



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