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Ion Molecule Collision Processes in Gaseous Electronics

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The Introduction of the Flowing Afterglow in the 1960s revitalized Gaseous electronics by virtue of its unmatched versatility. The ion chemistry of the ionosphere was quickly determined. The first measurements of associative detachment of negative ions were made which had significance for aeronomy and Astrophysics. Meteorite metal ion reactions allowed the highest altitude determination of atmospheric water density. The first systematic studies of vibrationally excited molecular ions were carried out; Proof of the new process of collisional-radiative electron recombination was made the first application of Landau-Teller theory to molecular ions were carried out. FA technology was exrended to very high and very low temperatures. Application as an extremely sensitive analytical device for trace gas measurements is now widely used in environmental, industrial and medical applications. Vibrational radiative lifetimes were also measurements were made for molecular ions