



Wednesday

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Rm 118 NSH

A brief history of mass spectrometry in nuclear physics with a few personal highlights

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Thomson's positive ray parabola apparatus, built approximately 100 years ago, started the development of a new technique called Mass Spectrometry for the study of charged particles. The mass-analysis of ion-beams currently finds applications in many diverse fields of science and technology. Developments by Dempster and Aston quickly improved the technique and set the stage for instruments that are recognizably mass spectrometers as we know them. The advances were aided by the concurrent development of the theory of ion-optics. A brief account of the development of mass spectroscopy and some examples of its applications to nuclear physics will be given. I will conclude with a description of work currently underway at the Argonne National Laboratory to determine the masses of very neutron-rich nuclei and the influence of these measurements on our understanding of the elemental abundances resulting from the astrophysical r-process.