

Design and First Operation of the Electrostatic Storage Ring, ELISA, S.P. MØLLER, University of Aarhus, Inst. for Storage Ring Facilities - The design of the first ion storage ring using electrostatic deflection and focusing elements was described in [1]. In the present presentation, the design principles will be described, and the first operational experience with the storage ring will be reported. Also, the differences between electrostatic and magnetic storage rings will be emphasized, and the potential in terms of applications will be given. At the time of writing this abstract, stable beams consisting of 10^7 singly charged deuterium and nitrogen molecules with an energy of 14 keV have been stored. Beam observations have been made with beam- position monitors, either using a chopped beam, or a beam bunched with a drift-tube rf system. A bunched-beam lifetime of 0.3 seconds has been observed at an average pressure of $3 \cdot 10^{-10}$ mBar, obtained after the first short bakeout. At present, the storage ring is being prepared for a pressure close to 10^{-11} mBar. Furthermore, a new injector is being added, which should lead to higher stored currents.

- [1] S.P. Moeller, Nucl. Instrum. Methods in Physics Research A 394 (1997) 281.