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Typ: **Contributed talk**

Ion optical calculations of high resolution analyzing magnet system for heavy molecular ions at KACST

Freitag, 4. Oktober 2024 09:00 (20 Minuten)

At the King Abdulaziz City for Science and Technology KACST, a beam line injector is being constructed to provide the multi-purpose low-energy, ELeCtroStAtic Storage Ring (ELASR), with the required high-quality ion beams. The injector is being equipped with a 90 degree high resolution mass analyzing selector magnet system and a new ECR ion source. The magnet system was designed to provide a singly-charged ion beam of kinetic energy up to 50 keV and ion mass up to 1500 amu with the mass resolution of $\Delta m/m = 1/1500$. In this paper, the ion-optical calculations, the determination of the required momentum resolution and the actual analyzing magnet system parameters will be discussed. The simulation of the beam envelope along the injector and through the magnet will be presented.

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Track Klassifizierung: C-1 Magnet Design and Measurement