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IONOPTICAL CALCULATIONS OF KACST ANALYZING MAGNET SYSTEM FOR HEAVY MOLECULAR IONS

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At the King Abdulaziz City for Science and Technology (KACST) in collaboration with the university of Hail (UOH), a beam line injector is being constructed to provide the multi-purpose low-energy applications. The injector is being equipped with a 90◦ 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 Δ m/m = 1/1500. In this paper, the ion-optical calculations, the degermation of the required momentum resolution and the actual analyzing system parameters will be discussed. The simulation of the beam envelope along the injector and through the magnet will be presented.

Technical Track

Nuclear Applications and Radiation Processing

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