Fundamental science and advanced radiation technology at KVI-CART

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In the first part of my talk, I would like to introduce the research program of KVI-Center for Advanced Radiation Technology (KVI-CART). KVI-CART is an independent research institute at the University of Groningen. Its mission is to perform basic research on subatomic and astroparticle physics and application-driven research on accelerator physics and physics in medicine. The central facility of KVI-CART is AGOR, a superconducting K=600 MeV cyclotron for the acceleration of light and heavy ions.

I will provide an overview of the facility and on the ongoing research program in the three research groups (Astroparticle physics, Medical Physics and Nuclear & Hardon physics) at KVI-CART.

In the second part I will focus on my own research. My students and I study exotic nuclei, such as superheavy nuclei and nuclei with the same number of protons and neutrons, with the combination of novel chemical separations and nuclear physics techniques such as Penning trap mass measurements.