THE PHYSICS COLLOQUIUM

Thursday 25 January 2024, 4:00 p.m.
Nijenborgh 4, Lecture Hall 5111.0080

Where do we come from – ion storage rings for nuclear astrophysics

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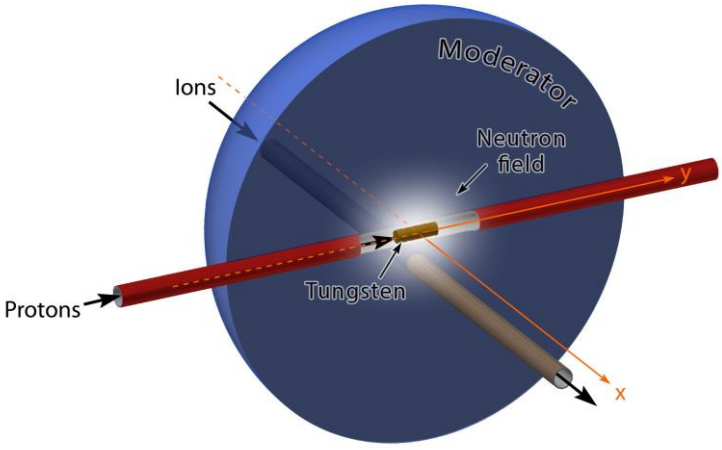
Virtually all of the isotopes heavier than iron would not exist without neutron-induced reactions. Despite there importance in many different astrophysical scenarios, there are almost no direct measurements for isotopes with half-lives shorter than a few years. A radically new approach is necessary to overcome this constraint.

Ion storage rings offer unprecedented possibilities to investigate radioactive isotopes of astrophysical importance in inverse kinematics. During the last years, a series of pioneering experiments proofed the feasibility of this concept for the fusion of charged paricles at the Experimental Storage Ring (ESR) at GSI. In the future, a combination of a free-neutron target and an ion storage ring can bring the half-life limit for direct neutron-induced reactions down to fractions of a minute.



I will review different astrophysical scenarios, status of current experiments as well as prospects of this new experimental endeavor.

Join us for coffee starting 3:30 p.m. Refreshments will be served after the lecture.

For more information contact the host: Julia Even (j.even@rug.nl)
Website: http://www.rug.nl/research/vsi/colloquia/