



PHYSIKALISCHES KOLLOQUIUM

Vortrag:

Prof. Yuri A. Litvinov

GSI Helmholtzzentrum für Schwerionenforschung,
Darmstadt, Germany



Thema:

Applying Heavy-Ion Storage Rings for Precision Experiments at the Intersection of Atomic, Nuclear and Astro-Physics

Zeit und Ort:

Dienstag, 21.6.2022, 16:40 Uhr - Hybride Veranstaltung

Vortrag vor Ort in REC/C213

Online Teilnahme möglich:

Zoom-Meeting: Meeting-ID: 619 0836 6527 / Kenncode: PK-22!-YL

<https://tu-dresden.zoom.us/j/61908366527?pwd=S3lTUHVXVks1TDd0bFRNdG80KythQT09>

Leitung:

Prof. Kai Zuber

Kurzfassung:

Storage of freshly produced secondary particles in a storage ring is a straightforward way to achieve the most efficient use of the rare species as it allows for using the same secondary ion multiple times. Employing storage rings for precision physics experiments with highly-charged ions (HCI) at the intersection of atomic, nuclear, plasma and astrophysics is a rapidly developing field of research. The number of physics cases is enormous. The focus in this presentation will be on the results obtained at the Experimental Storage Ring ESR of GSI in Darmstadt.

The ESR is presently the only instrument enabling precision studies of decays of HCIs. Radioactive decays of HCIs can be very different as known in neutral atoms. Some decay channels can be blocked while new ones can become open. Such decays reflect atom-nucleus interactions and are relevant for atomic physics and nuclear structure as well as for nucleosynthesis in stellar objects. Especially the two-body weak decays of HCIs will be discussed.

The experiments performed at the ESR will be put in the context of the present research programs in a worldwide context, where, thanks to fascinating results obtained at the presently operating storage rings, a number of projects is planned.

Biographie:

Yury A. Litvinov: 1999 Defence of Diploma in Physics at the University of St. Petersburg / 2003 PhD in Physics at the Justus Liebig University Giessen / 2011 Habilitation at the University of Heidelberg / 2017 Apl Prof at the University of Heidelberg / >380 Publications and >200 Invited presentations / Various services for the research community like: 2013-2020 Member of the BMBF Committee "Hadronen und Kerne" KHuK / 2021 – Chair of the DPG Mass Spectrometry division (part of SAMOP) / 2018 – Advisory panel of the Physica Scripta journal / Several awards and prizes like:

Mitglied von:



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concept**
Exzellenz aus
Wissenschaft
und Kultur

2007 IUPAP Young Scientist Award in Nuclear Physics / 2014 Mattauch Herzog Prize of the German Society of Mass Spectrometry / 2015 ERC Consolidator Grant / 2016 DunHuang Award for Foreign Experts of the Gansu Province, China / 2021 APS Fellow.