



Contribution ID: 61

Type: **Invited Talk**

Quasi-Free Scattering Experiments in Inverse Kinematics at GSI

Friday, 23 August 2024 15:30 (30 minutes)

Quasi-free knockout reactions have been established in the past years as a versatile spectroscopic tool to study exotic nuclei accelerated to high energy of few hundred MeV/nucleon. The advantage of inverse kinematics is the possibility of kinematical complete measurements of the reaction including the detection of the remaining residue after the knockout. The applications of quasi-free knockout reactions are meanwhile manifold, examples are the study of the single-particle structure by single-nucleon knockout like $(p,2p)$, or the population of nuclei beyond the drip line by nucleon or cluster knockout reactions as $(p,2p)$ and $(p,p\alpha)$. Short-range correlations can be identified in $(p,2p)$ and (p,pd) reactions. In general, $(p,2p)$ is a suitable reaction to populate continuum states, as $(p,2p)$ fission for example to investigate the fission process with control on the excitation energy and to extract fission thresholds.

In this presentation I will discuss recent examples addressing the aforementioned processes and topics.

This work is funded by the BMBF Verbundforschung Projekt 05P21RDFN2, the Helmholtz Research Academy Hesse for FAIR, and the DFG via Sonderforschungsbereich SFB1245.

Funding Agency

BMBF 05P21RDFN2, HMWK HFHF

Email Address

taumann@ikp.tu-darmstadt.de

Presenter if not the submitter of this abstract

Primary author: AUMANN, Thomas (TU Darmstadt)

Presenter: AUMANN, Thomas (TU Darmstadt)

Session Classification: Plenary

Track Classification: Nuclear Structure from Collisions