

GSI - FAIR Colloquium

Main Lecture Hall (SB1 1.120), 64291 Darmstadt, Planckstraße 1

*Tuesday, February 7, 2017,
16:15 Uhr (Tee ab 15:45)*

Markus Bender – GSI

Ulrich Weber - GSI

GSI beam time 2016: BIOMAT Experiments

Materials research with energetic heavy ions mainly addresses structural changes of irradiated materials. Along its trajectory, each single ion can modify the target while being slowed down due to the deposition of energy. Subsequent ultrafast dynamical processes like excitation, ionization and transient melting end up in manifold material modifications from track formation over gas desorption to radiation damage. In the talk, selected experimental results of the recent beam time will be shown that help to understand and overcome or employ the challenges of ion-matter interaction.

Results from the Biophysics experiments from the beam time in July 2016 will be presented as well. The major goal of this measurement campaign (within the frame of the ROSSINI collaboration with ESA) was the characterization of new materials for the shielding of astronauts against galactic cosmic radiation (GCR) and especially against solar particle events. Furthermore, the beam monitors for the therapy scanning system were improved with new gases in order to yield shorter treatment times at the medical facilities in Heidelberg and Marburg.

Einladende: Silvia Masciocchi & Daniel Severin

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