



Science Week

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Materials Research irradiation facilities at GSI/Fair

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The facility for antiproton and ion research (FAIR) will provide a unique accelerator complex with heavy ion beams up to 10GeV/u and highest intensities. Besides the existing target stations dedicated to materials research (M-branch, X0, and Cave A) two new target stations in the APPA Cave and at CRYRING are planned and under commissioning respectively.

The future APPA cave hosts the high energy BIOMAT beamline including a materials research setup. The multi-user experimental area has to cover very different user demands covering a broad range of beam intensities, energies and pulse structures and requiring flexible beam diagnostics and on-line monitoring of beam parameters. The target area includes settings for efficient sample exchange systems for irradiations of small (e.g., biocells) and large (e.g., satellite components) samples in air, a multi-port UHV chamber for irradiations and in-situ material analysis under high vacuum conditions, as well as special high-pressure devices to simultaneously expose samples to pressure, temperature, and energetic ions.

In addition, an experimental target station at the extraction beamline of CRYRING is under construction and will be commissioned in 2018.

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