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The FAIR project

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This presentation outlines the current status of the Facility for Antiproton and Ion Research (FAIR). It is expected that the actual construction of the facility will commence in 2011 as the project has raised more than one billion euro in funding.

Outstanding research opportunities offered by the Modularized Start Version for all scientific FAIR communities from early on will allow to bridge the time until the completion of FAIR with a world-leading research program.

FAIR will provide intense secondary beams of unstable Isotopes across the entire nuclide chart. Beam intensities exceed those available at existing rare-Isotope-beam facilities by several orders of magnitude and beam energies are variable up to more than 1GeV/u. A superconducting in-flight separator (Super-FRS) serves external stations and coupled storage cooler rings and in a later stage also an electron-ion collider. The novel instruments and experimental opportunities have attracted a large community of nuclear physicists addressing a broad research spectrum covering nuclear structure physics, nuclear astrophysics and studies of fundamental interactions and symmetries. Altogether 9 experimental programs are currently planned at the three branches of the Super-FRS. These programs are organized in the NuSTAR collaboration (Nuclear Structure, Astrophysics, and Reactions) with more than 700 participating scientists. The presentation will put special emphasis on this scientific branch of FAIR.

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