

## THE PERSPECTIVES FOR NUCLEAR ASTROPHYSICS AT FAIR

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The Facility for Antiproton and Ion Research (FAIR) will be constructed in the coming years as an extension of the current GSI Helmholtzzentrum fuer Schwerionenforschung in Darmstadt, Germany. FAIR will be an international accelerator complex allowing for unprecedented research in fundamental questions of atomic, hadron, nuclear and plasma physics as well as in related applied areas. The research is organized in four large experiment collaborations: APPA - performing investigations in atomic and plasma physics as well as in applied sciences like material research and biophysics; CBM - exploring the phase diagram of nuclear matter in particular at finite baryonic densities; NuSTAR - producing exotic nuclei with unusual proton-to-neutron ratios and determining their properties; PANDA - studying hadron structure and form factors and hypernuclei via proton-antiproton annihilation. The experimental program of these collaborations promises to deepen our understanding of astrophysical objects like supernovae and neutron stars and the origin of the elements in the Universe.