



Press Release

Probing supernovas and the origins of matter

€1.9m for Tübingen astrophysicists in three outstanding international projects

Tübingen, 28 July 2014

Germany's Ministry of Education and Research has awarded grants totaling €1.9m over three years to astroparticle physics projects by Tübingen scientists.

The GERDA project aims to find a particular form of radioactive decay linked with an isotope of Germanium – the neutrinoless double beta decay. Finding it would help explain the creation of matter in the early universe. The experiments are being carried out at the Gran Sasso underground laboratories in central Italy. The Tübingen researchers are responsible for a detection system which shields the experiment from cosmic rays and background radioactivity.



Inside the water tank shielding the GERDA experiment from outside radiation. Tübingen students and researchers have installed photosensors inside this mirrored tank which alert scientists to cosmic rays. Photo: Kai Freund, University of Tübingen

The CRESST project is also taking place at the Gran Sasso labs. Researchers here are seeking particles which could form dark matter. At temperatures approaching absolute zero, they are measuring the particle scattering which occurs when the temperature is raised. The University of Tübingen is responsible for building the necessary superconducting temperature sensors.

The Cherenkov Telescope Array (CTA) will be composed of some 80 telescopes measuring high energy gamma rays. This will shed light on events such as supernovas and other highly energetic processes in the cosmos. The Ministry of Education and Research funding will enable Tübingen researchers to build steering mechanisms for the telescope mirrors and the selective functions in the cameras.

“These grants underline the University of Tübingen’s important role in astroparticle physics in Germany,” said a delighted Professor Josef

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Jochum of Tübingen's Kepler Center. He and Professor Andrea Santangelo supervise the projects and their collaboration with international research institutes.

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