

# **Nuclear Astrophysics Research at the Tandem Accelerator of the Maier Leibnitz Laboratory in Munich**

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As part of the Munich cluster of excellence “Origin and Structure of the Universe” ([www.universe-cluster.de](http://www.universe-cluster.de)) nuclear astrophysics research plays an important role. The worldwide unique AMS facility at the MLL Tandem laboratory is used for two different projects in this respect.

On one hand, the search for radioisotopes produced by nearby supernova events and deposited in deep sea ocean crusts is pursued. In 2004 it was possible [1] an increased abundance of  $^{60}\text{Fe}$  in ocean crust layers, that have been deposited about 3 million years ago, clearly indicating that there was a nearby supernova event leading to the deposition of ejected nuclei on the earth. The search for the same signal in other isotopes is ongoing.

The second line of research is concerned with the measurement of astrophysically relevant cross-sections by means of irradiation of target material, either at the Tandem accelerator or at a neutron or photon beam, and subsequent detection of the reaction products by means of the AMS technique.

The talks will give an overview on the nuclear structure related activities at the MLL Tandem accelerator.

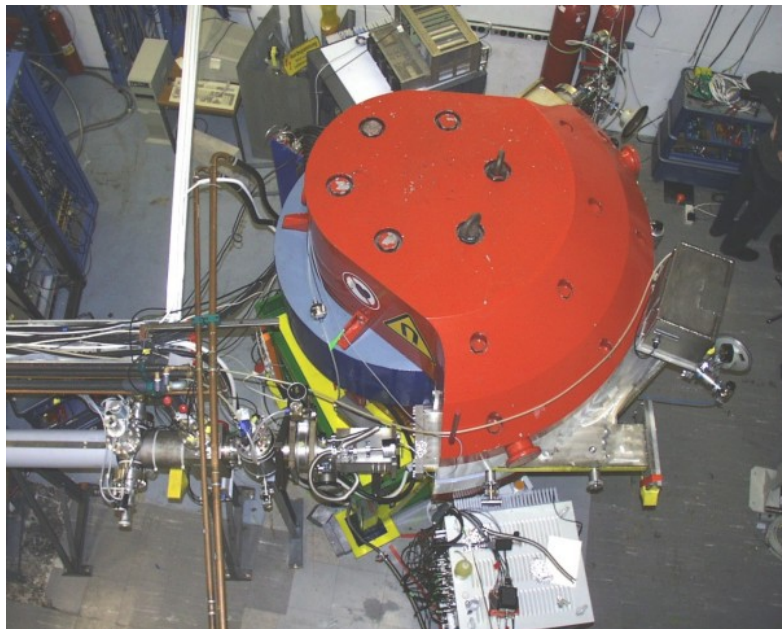


Figure 1: Gas-filled magnet GAMS of the AMS facility at the MLL.

[1] K. Knie et al., Phys. Rev. Lett. 93 (2004) 171103