

Seeing the Stars and Capturing Gamma-Rays at LENA

A.E. Champagne

University of North Carolina, Chapel Hill, NC 27599, USA

and

Triangle Universities Nuclear Laboratory, Duke University, Durham, NC 27706, USA

Advances in the quality and scope of astronomical observations have spurred new interest in direct measurements of nuclear reactions at low-energies. With this motivation in mind, we have constructed a dedicated accelerator facility LENA (the Laboratory for Experimental Nuclear Astrophysics). In its first phase of operation, we've completed measurements related to the ages of stars and to stellar explosions. I'll describe how we do these experiments and what we think they imply for stellar structure and evolution.