

GRETINA results from physics campaign at NSCL

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The gamma ray energy tracking array GRETINA was completed in March 2011. Extensive tests were carried out using radioactive sources and beams from the 88-Inch Cyclotron at LBNL. Its first physics campaign started April 2012 at the National Superconducting Cyclotron Laboratory (NSCL). More than 20 experiments were scheduled to be completed before July of 2013. These experiments cover studies of nuclear structure in neutron-rich and proton-rich region, nuclear reaction, and nuclear astrophysics. GRETINA was installed centered at the target of the S800 spectrograph with of 28 36-fold segmented Ge detector, covering $1-\pi$ solid angle. The tracking detectors have the unique ability of resolving the energy and position of the individual interaction points and establishing the gamma-ray scattering sequence. GRETINA with S800 is a powerful combination for fast radioactive beam experiments at NSCL; their high position resolution is crucial for Doppler correction to achieve good energy resolution; their higher efficiency overcomes the low intensity of exotic beams and extends the range of study to more neutron-rich and proton-rich nuclei; and gamma ray tracking reduces background and improves spectral quality. We will report on selected results from the campaign of GRETINA at the S800 and discuss the future plans.