Abstract Submitted
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Status of CHICOx upgrade CHING-YEN WU, Lawrence Livermore National Laboratory — A proposal was submitted and approved by DOE/NP to upgrade CHICO2 to CHICOx, by resizing the detector chamber and reconfiguring the pixelated position-sensing board, to be fully integrated into GRETA. The recently completed CHICO2, a two-dimensional pixelated parallel-plate avalanche counter, has achieved a position resolution matching to that of GRETA and has been integrated successfully into GRETINA. The science campaign in FY14/15 at ANL using GRETINA/CHICO2 has produced two publications in PRL and two in PLB in addition to a technical article in NIMA on CHICO2. We believe this proposed upgrade will fully exploit the sensitivity of GRETA for the nuclear gamma-ray spectroscopic study using the quasi-elastic reactions such as the sub-barrier Coulomb excitation method and few-nucleon transfer reaction as well as the deep-inelastic reaction. GRETA/CHICOx will be a unique instrument providing the highest sensitivity in exploring the evolution of shell structure and collectivity for neutron-rich nuclei near the r-process path. The upgrade plan together with the timeline will be presented. This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics. Work at LLNL is supported by the U.S. DOE under Contracts No. DE-AC52-07NA27344.

Ching-Yen Wu
Lawrence Livermore National Laboratory

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