

Abstract Submitted
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CHICOx; an auxiliary detector for GRETA for nuclear gamma-ray spectroscopic study¹ CHING-YEN WU, Lawrence Livermore National Laboratory — A proposal has been submitted to 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. Based on the success of the science campaign in FY14/15 at ANL using GRETINA/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 studying 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.

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