

Building Generic Instrumentation for Nuclear Physics

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Instrumenting nuclear physics experiments today is a challenge for a considerable number of projects. Extracting, because of the complexity in the electro-vacuum-mechanics, number of active elements, the full beam integration and of course the physics. Examples will be shown in GDS including mature, recent and project ideas of the gas devices. Also, often, the gas volumes are ringed with solid state, scintillators or spectrometers which translates into additional requirements for higher resolution and dynamic range. All this have overwhelmed the needs for many channel signal/shape recording systems with generous parameter setting, flexibility and high counting rate. Further, the data capture systems have to fit into the lab infrastructures which have yet to adopt to the huge data bandwidth and analysis platform –calling for a selective trigger. Hence an adjustable, complete, integrable and friendly electronic system. The word Generic is used to describe the approach being deployed and GET (General Electronic for TPCs) and is an example of an initiative. In the workshop, I would like to address the present status of GET with its demanding aspects that the practiced approach has required. Will denote the foresee the development over the next five years as mile-stoned with the ENSAR2/GES program. Within the generic context, I will attempt to includes the development of instruments in general.

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