A new data acquisition system for the Pelletron/Linac laboratory

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Over the last few years the researchers at the Pelletron/Linac laboratory have invested a significant effort on the modernization of their detector systems. Experiments have become very complex with multiple detectors. The most recent detector system developed in the laboratory consists of a very large solid angle neutron wall pair. The current data acquisition system is not capable of handling their intense event rate. Also, the present system histogramming interface is a stong limiting factor for data acquisition due to the number of parametres recorded for each event, much larger than in typical experiments of the laboratory. Based on that, a new data acquisition system and analysis package [1] have been developed in order to reduce the limitations described above. The acquisition system is a CAMAC based system controled by a Linux PC computer. The system was developed using O.O. c++ languange and the ROOT [2] analysis framework libraries. This combination provides a modern and user friendly graphical interface, with high performance histogramming, analysis and event selection framework.

[1] http://dfn.if.usp.br/ suaide/pelletron/
[2] http://root.cern.ch