

Development of data acquisition and analysis system for X-ray spectroscopy

Abstract

Runaway electrons (RE) population present within any tokamak plasma is required to be monitored in to energy, flux as well as in temporal space. Two LaBr₃(Ce) detector based spectroscopic diagnostic will be set up on the ADITYA-U tokamak to measure the Hard X-ray (HX) spectra. The individual detector is operated separately via Genie 2000 software (operational software) in pulse height mode (PHA). Hence time information is not available for HX emissions. The required mode of operation will be the TList mode operation. The Genie 2000 software is capable for the TList mode operation, however a substantial software modifications are required which can be performed by a software development kit (SDK). The project corresponds to the upgradations/ modification to the Genie 2000 software

Academic Project Requirements:

1) Required No. of student(s) for academic project: 1

2) Name of course with branch/discipline: M.E./M.Tech Electronics and Instrumentation Engineering

3) Academic Project duration:

(a) Total academic project duration: 42 Weeks

(b) Student's presence at IPR for academic project work: 3 Full working Days per week

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