(B) Development of MDSPlus based data handling system for large volume plasma device

Abstract

Large Volume Plasma device (LVPD) [1] is dedicated for fundamental studies relevant to earth's atmosphere and fusion plasmas. The machine control system [2-4] of LVPD is used for protected and synchronized operation of various subsystems of the device.The system is equipped with heterogeneous set of data items ranging from PXIe based instrumentation system to Modbus based slow control system. All the systems are time synchronized.MDS+ is a specialized data archival and analysis system in fusion community. This project will develop a centralized data archival and data analysis system for LVPD using various MDS+ toolset. Primary investigations and prototyping activates has been carried out and could be taken as starting point of the project. As an extension, this project will focus on following objectives:

a. Exploration of MDS+ tools and interfaces and installations on RHEL server
b. Integration of existing LabVIEW applications into MDSPlus
c. Integration and modification of data analysis routines
d. Exploration of MDS+ and Globus grid framework

Finally, developed software will become an integral part of central machine control system.

Relevant references [Publications, web links etc.]:

1. MATTOO, S. K., ANITA, V. P., AWASTHI, L. M. et. al., Rev. Sci. Instrum.**72** , 3864 (2001)
2. SUGANDHI, R., SRIVASTAVA, P. K., SANYASI, A. K., et. al.,*fusengdes.* 12, 804 (2016).
3. SUGANDHI, R., SRIVASTAVA, P. K., SANYASI, A. K., et. al.,*fusengdes.* 15, 49 (2017).
4. SANYASI, A. K., SUGANDHI, R., SRIVASTAVA, P. K., et.al. Rev. Sci. Instrum. 89,055113 (2008).

Eligibility: Only students of M.E. / M.Tech. / M.Sc. (Engineering) / M.S. in Computer Sc./Computer Engineering/Information Technology/ Information and communication technology branches can submit their application at Email: ritesh@ipr.res.in [Guide e-mail address], project_ee@ipr.res.in [Project Coordinator's e-mail address]

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