Name	Degree	% participation
André Sancho Duarte	MsC	100%

Part I – Scientific Activities

Tokamak ISTTOK

Participation in the ITER project

Collaboration on the development of the MARTe-EPICS bridge, for the Fast Plant System Control (FPSC) of ITER. With the purpose of tuning the network for real-time data streaming within the scope of this project, several data throughput and latency network tests where done.

Participation in the COMPASS programme

Some minor issues with the CODAC of Compass were solved during the year. In order to improve the speed of data collection and retrieval, as well as provide a better answer to Compass specific needs, a new database structure was proposed and developed, in collaboration with IPP-Prague. This new structure is composed of: (i) a new database, parallel to the FireSignal Database (for compatibility with current systems), with more adequate data referencing; (ii) data storage based on HDF5 files,instead of pure raw data files; (iii) possibility of FireSignal acquisition Nodes writing the data directly on the data storage server.

Two FireSignal Nodes were devised for the Reflectometry diagnostic in Compass: one for data acquisition at 200 Msamples/s and another for configuring the diagnostic. The data acquisition Node is ready and was tested outside Compass. The configuration node is being developed and it should be ready for testing in December. It is expected the full system to be deployed in Compass when the diagnostic is installed on the machine, which is expected to happen after the end of the current shot campaign.

Part II – Scientific Output

A. Publications

Papers in international refereed scientific journals

Copy as many tables as required and fill the data in the right column. The first table is filled only as an example, you may delete it.

Author(s)	P. Carvalho, A. Duarte, T. Pereira, B.Carvalho, J. Sousa, H. Fernandes, C. Correia, B. Gonçalves, C. Varandas
Paper title	EPICS IOC module development and implementation for the ISTTOK machine subsystem operation and control
Journal name	Fusion Engineering and Design
Volume, page	Volume 86, Issues 6–8, Pages 1085–1090

Year	2011