

## Part I – Scientific Activities

### Participation in the ITER project

#### Summary and highlights of research achievements

i) Development of a prototype of an ATCA quad-AMC carrier board for the FPSC.

This board provides PCIe switching and timing distribution to compatible ATCA units existing in the system.

ii) Development of a second version of the PCIe host adapter interface RTM for the AMC carrier board.

Re-drivers for the PCIe lanes and reference clock were added.

## Part II – Scientific Output

### Papers in international refereed scientific journals

Author(s)	Miguel Correia, Jorge Sousa, António P. Rodrigues, Álvaro Combo, António J.N. Batista, Bruno Gonçalves, Carlos A.F. Varandas, Carlos M.B.A. Correia
Paper title	xTCA-compliant PCIe hub/controller for Physics CODAC subsystems
Journal name	Fusion Engineering and Design
Volume, page	86, Issues 6-8, 1351-1354
Year	2011

Author(s)	Miguel Correia, Jorge Sousa, António P. Rodrigues, Álvaro Combo, António J.N. Batista, Bruno Gonçalves, Carlos A.F. Varandas, Carlos M.B.A. Correia
Paper title	ATCA-Based Hardware for Control and Data Acquisition on Nuclear Fusion Fast Control Plant Systems
Journal name	Nuclear Science, IEEE Transactions on
Volume, page	58 Issue:4, 1701 - 1705
Year	2011

Author(s)	B. Gonçalves, J. Sousa, B.B. Carvalho, A.P. Rodrigues, M. Correia, A. Batista, J. Vega, M. Ruiz, J.M. López, R. Castro, A. Wallander, N. Utzel, P. Makijarvi, S. Simrock, A. Neto, D. Alves, D.F. Valcárcel, P. Lousã, F. Piedade, L. Fernandes, et al.
Paper title	ITER prototype fast plant system controller
Journal name	Fusion Engineering and Design
Volume, page	86, Issues 6-8, 556-560
Year	2011

Author(s)	B. Goncalves, J. Sousa, B.B. Carvalho, A.P. Rodrigues, M. Correia, A. Batista, J. Vega, M. Ruiz, J.M. Lopez, R. Castro Rojo, A. Wallander, N. Utzel, A. Neto, D. Alves, D. Valcarcel.
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Paper title	Engineering Design of ITER Prototype Fast Plant System Controller
Journal name	Nuclear Science, IEEE Transactions on
Volume, page	58, Issue 4, Part:1, 1439 - 1446
Year	2011

Author(s)	A.P. Rodrigues, M. Correia, A. Batista, J. Sousa, B. Goncalves, C.M.B. Correia, C.A.F. Varandas.
Paper title	Intelligent Platform Management Controller for Nuclear Fusion Fast Plant System Controllers
Journal name	Nuclear Science, IEEE Transactions on
Volume, page	58, Issue 4, Part:1, 1733 - 1737
Year	2011

## B. Publications and contributions in conferences and workshops

### Conference Posters

Conference	IAEA 8th Technical Meeting on Control, Data Acquisition and Remote Participation for Fusion Research
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Start-end date	20-24 June 2011
Location	San Francisco, USA
Author(s)	Miguel Correia, Jorge Sousa, Álvaro Combo, António P. Rodrigues, Bernardo B. Carvalho, António J.N. Batista, Bruno S. Gonçalves, Carlos M.B.A. Correia, Carlos A.F. Varandas
Poster title	Implementation of IEEE-1588 timing and synchronization for ATCA control and data acquisition systems

## E. Distinctions and awards

### Refereeing of scientific publications

M. Correia served as referee for one paper of "IEEE Transactions on Nuclear Science".