



IAEA FEC 2016

Contribution ID: 525

Type: Poster

Contribution of Joint Experiments on Small Tokamaks in the framework of IAEA Coordinated Research Projects to mainstream Fusion Research

Friday, 21 October 2016 08:30 (4 hours)

Small magnetic fusion devices continue to contribute to many areas of fusion research because of their compactness, flexibility, low operation costs and the high skill of their personnel. The concept of interactive co-ordinated joint research using small devices in the scope of IAEA Co-ordinated Research Projects (CRP) was started in 2004 with as overall objective to contribute to streamlining the contributions of small magnetic confinement fusion devices to mainstream fusion research by establishing a network of cooperation enabling coordinated investigations of topics of relevance to physics, diagnostics and technology issues of next step fusion devices such as ITER and DEMO.

In particular the Joint (Host Laboratory) Experiments (JE) have been very instrumental in coordinating the scientific investigations (their nature, contents, analyses and outputs) as well as the development and application of novel diagnostics and technologies. In total eight JEs have been carried out in the framework of the IAEA Coordinated Research Projects on “Joint Research Using Small Tokamaks”(2004-2008) and on “Utilisation of a Network of Small Magnetic Confinement Fusion Devices for Mainstream Fusion Research”(2011-2015) on the tokamaks CASTOR, COMPASS and GOLEM (Czech Republic), T-10 (Russia), ISTTOK (Portugal), TCABR (Brazil) and STOR-M (Canada).

These JEs have been very instrumental in enabling collaborative studies of relevance to mainstream fusion research. Experimental, theoretical, and modelling activities conducted throughout the CRP lifetime have covered specific areas of physics, diagnostics and technology. Overall, the JEs have substantially contributed to capacity building and human resource development in various institutions in IAEA member states. This represents a significant asset in the provision of future skilled experts that will make possible the implementation of next steps in fusion energy development.

Acknowledgement. This work was partly funded by the IAEA technical contracts under IAEA Coordinated Research Projects (CRP) on “Joint Research Using Small Tokamaks”and on “Utilisation of a Network of Small Magnetic Confinement Fusion Devices for Mainstream Fusion Research”. Joint Experiments on the COMPASS tokamak were partly funded by the projects MSMT LM2011021.

Paper Number

EX/P7-38

Country or International Organization

Czech Republic

Primary author: Dr STOCKEL, Jan (Institute of Plasma Physics, AS CR)

Co-authors: Dr MELNIKOV, Alexander (4National Research Centre “Kurchatov Institute”); Prof. VAN OOST,

Guido (Ghent University); Dr GRYAZNEVICH, Mikhail (Tokamak Energy Ltd); KAMENDJE, Richard (IAEA)

Presenter: Dr STOCKEL, Jan (Institute of Plasma Physics, AS CR)

Session Classification: Poster 7

Track Classification: EXC - Magnetic Confinement Experiments: Confinement