



Contribution ID : 132

Type : Oral parallel contribution

## New insights into plasma physics in the stellarator TJ-II using pellet injection

*Tuesday, 18 July 2017 16:20 (20)*

Pellet injection systems have recently been installed on the stellarator TJ-II. These systems allow controlled amounts of plasma fuel (hydrogen) or impurity elements (TESPEL) to be injected into the hot magnetically confined plasmas created in this heliac device. This has opened the way to new research areas in this machine. For example, core fuelling efficiency, pellet ablation and fuel deposition, as well as plasma reaction and reorganization to an instantaneous cooling and the subsequent increase in electron density. In addition, the TJ-II system also allows benchmarking of simulation codes for pellet ablation and deposition which will provide valuable input for future experiments on the recently commissioned large stellarator, the W7-X located in Greifswald, Germany.

**Primary author(s) :** Dr. MCCARTHY, Kieran Joseph (Ciemat)

**Co-author(s) :** Dr. MELNIKOV, Alexander ('Kurchatov Institute', Moscow,); Mr. SOLETO, Alfonso (Ciemat); Ms. PORTAS, Ana Belen (Ciemat); Mr. SILVAGNI, Davide (Universidad Carlos III de Madrid); Dr. DESHKO, Galyna (NSC KIPT, Kharkov); Mr. MARTIN, Gregorio (Ciemat); Dr. VELASCO, Jose Luis (Ciemat); Dr. DE PABLOS, Jose Luis (Ciemat); Mr. HERNANDEZ SANCHEZ, Julio (Ciemat); Mr. LOPEZ, Justo (Ciemat); Dr. KRUPNIK, Lyudmyla (NSC KIPT, Kharkov); Mr. NAVARRO, Miguel (Ciemat); Dr. TAMURA, Naoki (National Institute for Fusion Science); Ms. PANADERO, Nerea (Ciemat); Dr. CHMYGA, Oleksandr (NSC KIPT, Kharkov); Dr. KOMAROV, Oleksandr (NSC KIPT, Kharkov, Ukraine); Dr. KOZACHEK, Oleksandr (NSC KIPT, Kharkov, Ukraine); Dr. ZHEZHERA, Oleksandr (NSC KIPT, Kharkov); Mr. GARCÍA, Raul (Ciemat); Dr. KHREBTOV, Sergey (NSC KIPT, Kharkov, Ukraine); Mr. COMBS, Stephen (Oak Ridge National Laboratory); Dr. ZENIN, Vitaly ('Kurchatov Institute', Moscow,)

**Presenter(s) :** Dr. MCCARTHY, Kieran Joseph (Ciemat)

**Session Classification :** Plasma Physics I

**Track Classification :** Plasma Physics