Contribution ID: **109**   Type: **Oral**

Design activities of the ECRH system for CFETR

Monday, 20 June 2022 14:30 (20 minutes)

Electron cyclotron resonance heating (ECRH) system is one of the auxiliary heating mix for China Fusion Engineering Test Reactor (CFETR), which is the proposed next-generation fusion facility in China. The ECRH system will deliver 30 MW of RF power into the plasma at the frequency of 170GHz, the front steering launcher (FSL) is selected as for example to investigate the feasibility with regards to the requirements of physical objectives and the integration design of CFETR. A prototype 2MW system aims to provide technical solutions for long pulse ECRH has been launched in 2019, supported by the Comprehensive Research Facility for Fusion Technology Program (CRAFT) of China. A high power testbench has been built for continuous wave (CW) gyrotron commissioning. A mock-up of multi-beam quasi-optical launcher will be implemented for performance validation. The conceptual design of CFETR ECRH system and the currently design activities are presented in this paper.

Primary author: Dr WANG, Xiaojie (Institute of Plasma Physics, Chinese Academy of Sciences)

Co-authors: Dr TANG, Yunying (Institute of Plasma Physics, Chinese Academy of Sciences); Dr ZHANG, Chao (Institute of Plasma Physics, Chinese Academy of Sciences); Mr WANG, Hanlin (University of Science and Technology of China); Mr ZHANG, Liyuan (Institute of Plasma Physics, Chinese Academy of Sciences); Dr WU, Dajun (Institute of Plasma Physics, Chinese Academy of Sciences); Dr WEI, Wei (Hefei University of Technology); Dr HU, Huaichuan (Institute of Plasma Physics, Chinese Academy of Sciences); Prof. LIU, Fukun (Institute of Plasma Physics, Chinese Academy of Sciences)

Presenter: Dr WANG, Xiaojie (Institute of Plasma Physics, Chinese Academy of Sciences)

Session Classification: Technology