



Contribution ID: 257

Type: **not specified**

The new attempts for the in-vessel pressure gauge in the KSTAR plasma

Monday, 17 September 2018 11:00 (2 hours)

The in-vessel pressure gauge refers to a vacuum gauge installed inside a vacuum vessel of tokamak. The inside of the vacuum vessel in which the fusion reaction occurs have to discharge the impurities and ashes those generated as a byproduct of the fusion reaction to sustain efficient state. Also the impurities and ashes of the plasma impinging on the divertor plate along the magnetic field are transformed into neutral gas and then exhausted. When the divertor contacting with the high-temperature plasma experiences a enormous heat load. And an in-vessel pressure gauge on the back of the divertor is required to analyze and control the amount of the particles impinging on the divertor.

In addition, the gauge calibration can greatly enhance the convenience of understanding the divertor design and analysis, and the physical phenomena of structures in vacuum vessels when expressed in terms of conventional vacuum pressure.

We have made new attempts to improve the usability and performance of the in-vessel pressure gauge. There are three new attempts: first, direct filament heating current setting; second, gauge calibration linked to gas input; and third, shot by shot calibration. In this paper we will describe details and pros and cons.

Co-author: KIM, Myungkyu (KSTAR Control research team National Fusion Research Institute)

Presenter: KIM, Myungkyu (KSTAR Control research team National Fusion Research Institute)

Session Classification: P1