Contribution ID: **612** Type: **Poster**

EX/P6-27: Analysis of High Energy Neutral Particles Measured by CNPA and Comparison with Synthesized Fast Neutral Spectrum Based on TRANSP/FIDA for the NB Heated Plasmas in KSTAR

Thursday, 11 October 2012 14:00 (4h 45m)

It is important to measure the fast ions accurately in tokamak plasmas since it represents the ion heating by NB/ICRF and it is a basis for the evaluation of the fast ion induced instabilities, transport, and neutron generation. A CNPA (Compact Neutral Particle Analyzer) based on Si-diode is an effective way to infer the fast ion distribution function by comparing with synthetic diagnostic data [1-4]. TRANSP code with NUBEAM module can generate fast ion distribution function by using measured plasma parameters such as density, temperature profiles [5]. FIDA/NPA code can synthesize the fast neutral particle spectrum through Monte Carlo (MC) simulation by using the output of TRANSP [6]. In this study, the high energy neutral particle spectrum is analyzed for NB heated plasmas in KSTAR and compared with the numerical result by using the TRANSP /FIDA codes.

Country or International Organization of Primary Author

Republic of Korea

Collaboration (if applicable, e.g., International Tokamak Physics Activities)

KSTAR team

Primary author: Mr KIM, Sun-Ho (Republic of Korea)

Co-authors: Dr ENGLAND, Alan (NFRI); Dr HWANG, Cherl Kew (KAERI); Ms YOO, Jung Won (NFRI); Dr TERZOLO, Laurant (NFRI); Dr PARK, Min (KAERI); Dr WANG, Son Jong (KAERI); Dr KIM, Sung Kyu (KAERI); Dr LEE, Young Seok (NFRI)

Presenter: Mr KIM, Sun-Ho (Republic of Korea)

Session Classification: Poster: P6

Track Classification: EXW - Magnetic Confinement Experiments: Wave–plasma interactions; current drive; heating; energetic particles