

Abstract Submitted  
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**Cutoff Probe for Tokamak SOL Measurement** BYUNG-KEUN NA, KWANG-HO YOU, DAE-WOONG KIM, KAIST, SHIN-JAE YOU, JUNG-HYUNG KIM, KRISS, HONG-YOUNG CHANG, KAIST — Since a cutoff probe was developed, there have been a lot of improvements in methodology and analysis for low temperature plasmas. However, in order to apply the cutoff probe to the Tokamak scrape-off layer (SOL), three important issues should be solved - speed, thermal protection, and short-distance (a few mm) wave propagation in magnetized plasmas. In this presentation, the improvement of cutoff probe for Tokamak is shown. The above problems can be solved using the following methods: (a) the cutoff probe can be used with short impulse of a few nano-seconds for speed improvement. (b) Ceramic covers were used for thermal protection. (c) In magnetized plasmas, the cutoff peak can be analyzed using circuit modeling and CST Microwave studio. To verify the proposed methods, the cutoff probe was applied to a Helicon plasma, and the results were compared to laser Thomson scattering results. Based on the result in the Helicon plasma, the cutoff probe will be applied to far-SOL region at the KSTAR 2013 campaign, and SOL region at the later campaign.

Byung-Keun Na  
KAIST

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