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Laser Induced Plasma Spectroscopy to Diagnose Impurities on a Tokamak Divertor MINJU KIM, MIN SANG CHO, BYOUNG-ICK CHO, GIST — In order to monitor dust and impurity deposition on the plasma facing components (PFCs) of a fusion device, the Laser Induced Plasma Spectroscopy (LIPS) is considered. It is a powerful spectroscopic technique to measure emission lines from the excited atoms by means of the high power laser pulse, and could be applied to diagnose dust and impurities deposition on the PFCs. We have measured LIPS spectra for the inner-divertor tile from 2011 KSTAR campaign. Characteristic emission lines for several key elements, such as iron, chrome are identified. Using those lines, plasma conditions for various laser parameters and their temporal evolution are characterized. It will be also presented that the depth profiling for the deposited elements on a surface of graphite tile. *This work is supported by the NRF (No. 2013M1A7A1A02043864), National Research Foundation of Korea (No. 2013R1A1A1007084) and the TBP research project of GIST.

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