

Abstract Submitted
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Study of Argon impurity line emissions using high resolution spectroscopy diagnostic in Aditya-U tokamak KAJAL SHAH, GAURAV SHUKLA, Pandit Deendayal Petroleum University, MALAY CHOWDHURI, RANJANA MANCHANDA, KUMARPALSINH JADEJA, KAUSHAL PATEL, RAKESH TANNA, Institute for plasma research, BALAMURALI KRISHNA MAYYA KOLAKE, Pandit Deendayal Petroleum University, JOYDEEP GHOSH, Institute for plasma research, ADITYA-U TEAM — **Argon impurity line emissions in the visible range have been observed in Aditya-U tokamak using 1m $f/8.7$ Czerny Turner configuration spectrometer together with a charge coupled device (CCD) detector. The diagnostic allows measurements from core to edge covering the complete minor radius of the plasma using a set of optical fibers giving multiple lines of sight. Temporal behaviour of the lines has been examined for reliable identification. Moreover, experimental observation of the Ar lines was reproduced to obtain emissivity profiles using 1D impurity transport code STRAHL. The emissivity profiles reproduced is then analysed to estimate signal strength of Helium like argon line emissions to be used as a feasibility study for X-ray Imaging Crystal Spectroscopic diagnostic proposed for Aditya-U. In this paper, we present observation and analysis of Ar impurity lines in Aditya-U tokamak.**

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