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The effects of the Snowflake Divertor on upstream SOL profiles.¹ C.K. TSUI, J.A. BOEDO, University of California San Diego, S. CODA, B. LABIT, R. MAURIZIO, F. NESPOLI, H. REIMERDES, C. THEILER, Swiss Plasma Center, Ecole Polytechnique Federale de Lausanne, M. SPOLAORE, N. VIANELLO, Consorzio RFX, T. LUNT, Max Planck Institut fr Plasmaphysik, W.A.J. VIJVERS, FOM Institute DIFFER, N. WALKDEN, EURATOM/CCFE Fusion Association, THE EUROFUSION MST1 TEAM TEAM, THE TCV TEAM TEAM — The Snowflake Divertor creates separated volumes within the SOL and divertor that feature strikingly different ne, Te profiles, and decay lengths, as measured with a scanning probe. Profiles were taken at the outer midplane of TCV plasmas with snowflake divertors as well as just above the X-points within the region of enhanced β pol. Density shoulders in the far SOL in single null plasmas are relaxed by secondary X-points, while effects are more complex in the near SOL. These changes were observed whether the secondary X-point was placed in the low field side SOL, or in the high field side SOL. Additionally, target profiles measured with IR camera and Langmiur probes that were taken in the divertor leg opposite the secondary Xpoint also show features on the flux surface corresponding to the secondary X-point. Fluctuation statistics from the reciprocating probe as well as comparisons made between upstream and downstream measurements are considered for their implications on SOL transport.

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