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Exploring the Dependence of Edge/SOL Turbulence Characteristics on Triangularity Using Gas Puff Imaging on TCV[1] WOONGHEE HAN, MIT PSFC, NICOLA OFFEDDU, EPFL SPC, THEODORE GOLFINOPOULOS, MIT PSFC, CHRISTIAN THEILER, EPFL SPC, JAMES TERRY, EARL MARMAR, MIT PSFC, C-MOD TEAM, TCV TEAM — Negative triangularity plasmas have been known for years to feature enhanced confinement as compared to standard, D-shaped plasmas. More recently, correlation electron cyclotron emission and phase contrast imaging measurements on the TCV tokamak revealed that the confinement improvement is accompanied by reduced levels of temperature and density fluctuations across most of the confined plasma. In this contribution, we extend these studies towards the edge/SOL region using Gas Puff Imaging (GPI), a diagnostic technique that routinely measures the spatially-resolved edge/SOL fluctuations. A GPI diagnostic has been installed and tested on TCV in the fall of 2018. During the summer 2019 TCV campaign, edge/SOL fluctuations with different triangularities (δ=-0.4 and +0.5) and plasma densities (2.0×10^{19} and 5.2×10^{19} m^{-3}) of limited ohmic L-mode plasmas were measured using GPI. Two different gas puff species (He and D_2) were used to obtain different levels of gas puff penetration and cover slightly different regions of the edge/SOL. The results will be presented to see the effect of triangularity on turbulence characteristics in the edge/SOL.

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