

Abstract Submitted  
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**Fast Imaging of Filaments in the X-Point Region of Alcator C-MOD**<sup>1</sup> J.L. TERRY, MIT-PSFC, S. BALLINGER, Columbia University, D. BRUNNER, B. LABOMBARD, A.E. WHITE, MIT-PSFC, S.J. ZWEBEN, PPPL — A rich variety of field-aligned fluctuations has been revealed using fast imaging of  $D_\alpha$  emission from Alcator C-Mod’s lower X-point region. Field-aligned filamentary fluctuations are observed along the inner divertor leg, within the Private-Flux-Zone (PFZ), in the Scrape-Off Layer outside the outer divertor leg, and, under some conditions, at or above the X-point. The locations and dynamics of the filaments in these regions are strikingly complex in C-Mod. Changes in the filaments’ generation appear to be ordered by plasma density and magnetic configuration. In a Lower Single Null with  $0.12 < n/n_{Greenwald} < 0.45$  and  $B \times \nabla B$  directed down, filaments typically move up the inner divertor leg toward the X-point. Reversing the field direction results in the appearance of filaments outside of the outer divertor leg. With the divertor targets “detached”, filaments inside the LCFS are seen. These studies were motivated by observations of filaments in the X-point and PFZ regions in MAST, and comparisons with those observations will be made.

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