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Search for Edge Zonal Flows in Alcator C-Mod[1] STEWART ZWEBEN, PPPL, JAMES TERRY, MIT, MATTEO AGOSTINI, Corsorzio RFX, Padova, TED GOLFINOPOULOS, MIT, OLAF GRULKE, IPP Greifswald, ROBERT HAGER, IPP Garching, JERRY HUGHES, MIT, DAVID PACE, ORISE, ORNL, ALCATOR C-MOD TEAM — Time-resolved measurements of the flow speed of edge turbulence were made using fast camera data from the gas puff imaging (GPI) diagnostic located near the outer midplane separatrix of C-Mod. The zonal flow was estimated using a cross-correlation technique to be the radially-resolved poloidal velocity of the turbulence averaged over the poloidal GPI field of view. The frequency spectrum of this poloidal flow is normally broadband and intermittent over ∼2-20 kHz, with a radial correlation length which decreases with the line-averaged density. In some cases with ICRH heating there was a near-coherent poloidal velocity oscillation at 6-7 kHz, which was highly correlated with a poloidal magnetic field oscillation at the same frequency. The relationship of this coherent zonal flow component with the GAM frequency and the L-H transition will be described.

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