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Streamer formation and transport for parameters characteristic of H-mode pedestals[1] AUSTIN BLACKMON, D. R. HATCH, M. KOTSCHENREUTHER, S. MAHAJAN, R. D. HAZELTINE, Univ of Texas, Austin — We investigate, through gyrokinetic simulations, the formation of streamers as a consequence of electron temperature gradient driven, electron scale instabilities. We also study the interaction of velocity shear with streamers for parameters typical of H-mode pedestals, exploring both the higher as well as lower temperature gradient regions. Without ExB shear, the streamers form at the pedestal top causing large heat fluxes; the modes, however, did not saturate. When ExB shear was turned on, the streamers dissipated, and heat flux was lowered, though still of significant magnitude. In the middle of the pedestal, with high temperature gradient, heat flux was insignificant. There was no evidence of streamers in this region, leading to a conclusion that streamers have a strong influence on heat flux.

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