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Momentum studies with sources and sinks in fusion G. DIF-PRADALIER, P.H. DIAMOND, UCSD, V. GRANDGIRARD, Y. SARAZIN, J. ABITEBOUL, X. GARBET, PH. GHENDRIH, A. STRUGAREK, CEA/IRFM, C.S. CHANG, S. KU, NYU — Recent experimental [1,2] as well as numerical [3] studies have started emphasising on the possible non-neoclassical behaviour of poloidal momentum. Correlation between this observed non-neoclassical behaviour and turbulence-induced Reynolds stresses was pointed out in the latter work. Building upon those results, a discussion of the mechanisms through which microturbulence may drive poloidal flows has been proposed [4]. More generally, the role of turbulence in determining rotation profiles and momentum transport is paramount, as exemplified through the chief role of turbulence-induced mean profile dynamics in flux-driven gyrokinetic simulations, including versatile momentum sources. Poloidal and parallel momentum are investigated, as well as their respective transport, in both L–mode-like and enhanced confinement regimes.

[1] K. H. Burrell et al., Phys. Plasmas **1**:1536 (1994)
[2] K. Crombé et al., Phys. Rev. Lett. **95**:155003 (2005)
[3] G. Dif-Pradalier et al., Phys. Rev. Lett. **103**:065002 (2009)
[4] C.J. McDevitt et al., this conference

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