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Shabnam Beheshti* (s.beheshti@qmul.ac.uk), School of Mathematical Sciences, Queen Mary University of London, Mile End Road, London, E1 4NS, United Kingdom. *Viscous dynamics in cosmological fluids*. Preliminary report.

It is known that viscous effects lead to nontrivial dynamical behaviour in homogeneous cosmological models such as FLRW and Bianchi spacetimes. Recent progress in well-posedness of certain Einstein-Navier-Stokes systems motivates revisiting a model first proposed by Lichnerowicz in 1967. We investigate the role of dynamic velocity in a cosmological background, demonstrating that the additional degree of freedom afforded by the associated fluid index may play a geometric role in the evolution of the fluid. Open questions for the more general setting of conformal fluids are also discussed. (Received February 15, 2018)