

Abstract Submitted
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Highly-symmetric travelling waves in pipe flow¹ CHRIS PRINGLE,
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University of Bristol — The recent theoretical discovery of finite-amplitude travelling
waves in pipe flow has re-ignited interest in the transitional phenomena that Osborne
Reynolds studied 125 years ago. Despite all being unstable, these waves are providing
fresh insight into the flow dynamics. We describe two new classes of travelling
wave which while possessing more restrictive symmetries than the previously found
travelling waves of Faist & Eckhardt (2003) and Wedin & Kerswell (2004) seem to
be more fundamental to the hierarchy of exact solutions. They exhibit much higher
wall-shear stresses and appear at notably lower Reynolds numbers.

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