Abstract Submitted
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 Corrections to the 4/5-law for decaying turbulence JONAS BOSCHUNG, RWTH Aachen University, MICHAEL GAUDING, TU Freiberg, FABIAN HENNIG, DOMINIK DENKER, HEINZ PITSCH, RWTH Aachen University — We examine finite Reynolds number contributions to the inertial range solution of the third order structure functions stemming from the unsteady and viscous terms for decaying turbulence. Under the assumption that the second order correlations f and g are self-similar under a coordinate change, we are able to rewrite the exact second order equations as function of a normalised scale r only with the decay exponent as a parameter. We close the resulting system of equations using a power law and an eddy-viscosity ansatz. If we further assume K41 scaling, we find the same Reynolds number dependence as previously in the literature.

Jonas Boschung
RWTH Aachen University

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