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Compressible fluid flows driven by stochastic forcing

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(Submitted on 5 Jun 2012)

We consider the Navier-Stokes system describing the motion of a compressible barotropic fluid driven by stochastic external forces. Our approach is semi-deterministic, based on solving the system for each fixed representative of the random variable and applying an abstract result on measurability of multi-valued maps. The class of admissible driving forces includes the (temporal) white noise and the random kicks, considered recently in the context of incompressible fluid models.

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