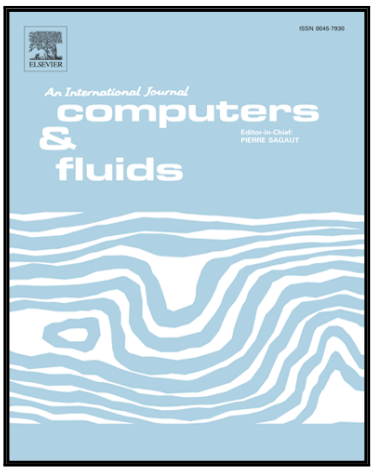

Scale and Reynolds number dependence of stochastic subgrid energy transfer in turbulent channel flow

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Highlights

- Cascades are studied in channel flow using stochastic subgrid models built from DNS.
- Direction, magnitude and stochasticity of scale based energy transfers quantified.
- Subgrid decorrelation time (memory effects) proportional to truncation wavelength.
- Transfers quantified for the meanfield; fluctuating 2D wave; and 3D turbulence.
- LES using the stochastic subgrid models reproduce the DNS kinetic energy spectra.