

Supplementary Material: Turbulence in the Two-dimensional Fourier-truncated Gross-Pitaevskii Equation

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1. Video S1

<http://www.physics.iisc.ernet.in/~rahul/movies/ft2dgp-movies/video-S1.mpg>

This video illustrates the time evolutions, from our DNS run A1, of the following: [top left panel] semilog (base 10) plots of the PDFs of the x (red circles) and y (green squares) components of the velocity (cf. figure 2 (a)-(c)); [top right panel] pseudocolor plots of the vorticity $\omega = \nabla \times \mathbf{v}$ (with high- k modes filtered out); [bottom left panel] log-log (base 10) plots of the spectra $E_{kin}^i(k)$, $E_{kin}^c(k)$, and $E_q(k) + E_{int}(k)$ (cf. figures 4 (a), 5 (a)-(c), and 7 (a)-(c); the orange-dashed line shows a k power-law behaviour); [bottom right panel] log-log (base 10) plots of the spectra $n(k)$ (cf. figures 8 (a)-(c); a k^{-1} power law is shown by the orange-dashed line).

2. Video S2

<http://www.physics.iisc.ernet.in/~rahul/movies/ft2dgp-movies/video-S2.mpg>

This video illustrates the time evolution of log-log (base 10) plots of the compensated, incompressible kinetic energy spectra $k^{5/3}E_{kin}^i(k)$ from our DNS runs A1 (purple curve), A2 (green curve), A3 (sky-blue curve), and A4 (brown curve); a $k^{-5/3}$ power law in $E_{kin}^i(k)$ is shown by the orange-dashed line to guide the eye (for uncompensated versions of these spectra see figures 4 (a)-(d)).

3. Video S3

<http://www.physics.iisc.ernet.in/~rahul/movies/ft2dgp-movies/video-S3.mpg>

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This video illustrates the time evolution of log-log (base 10) plots of the spectrum $E_{kin}(k)$ from the following DNS runs: [panel V1] - A1 (purple curve), A2 (green curve), and A3 (sky-blue curve); [panel V2] A6 (purple curve), A9 (green curve), and A10 (sky-blue curve); [panel V3] A11 (purple curve), A12 (green curve), and A13 (sky-blue curve); [panel V4] A1 and A5-A8 (with $N_c^2 = 1024^2, 512^2, 256^2, 128^2,$ and 64^2).