

Usage notes

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Time series of the Nusselt number, Nu, for each experiment conducted in the paper “The effect of rotation on double diffusive convection: perspectives from linear stability analysis” are stored in the corresponding .txt files. In the .txt file, the first column stores the non-dimensional time when Nu is calculated; the second column stores the corresponding Nu. Time is non-dimensionalized by $\sqrt{\mathcal{H}/g\alpha\Delta T}$. Users shall refer to the paper for meanings of each symbol.

For naming conventions, Rrho2 indicates $R_\rho = 2$; Rrho3 indicates $R_\rho = 3$; Rrho5 indicates $R_\rho = 5$; Rrho7 indicates $R_\rho = 7$.

Ra5 indicates $Ra = 6.5 \times 10^5$; Ra6 indicates $Ra = 3.3 \times 10^6$; Ra7 indicates $Ra = 1.6 \times 10^7$; Ra8 indicates $Ra = 1 \times 10^8$.

Ek1en2 indicates $Ek = 1 \times 10^{-2}$; Ek2p5en3 indicates $Ek = 2.5 \times 10^{-3}$; Ek1en3 indicates $Ek = 1 \times 10^{-3}$; Ek2en4 indicates $Ek = 2 \times 10^{-4}$; Ek1en4 indicates $Ek = 1 \times 10^{-4}$; Ekinf indicates $Ek = \infty$.

If the name of a .txt file starts with ”3D”, it means that the results are from the corresponding 3D experiments; otherwise from the 2D experiments.

Take Nu_Rrho2Ra6_Ek1en2.txt for example. It stores the time series of Nu for the 2D experiment with $R_\rho = 2$, $Ra = 3.3 \times 10^6$ and $Ek = 1 \times 10^{-2}$.