

Dear Christian Franzke,

Thank you for your detailed feedback and for the opportunity to revise our manuscript. We sincerely appreciate the insightful comments from the reviewers and have carefully addressed each point raised in your letter. Below, we outline our responses to the specific issues discussed.

It is correct that z/L and Ri have equal rights as stability parameters. We prefer z/L over Ri because it is more convenient and provides simpler approximations. We explicitly state in Lines 237-239 that we exclude the underdeveloped turbulence of the viscous sublayer near the domain boundaries (plates) from our analysis. It is important to mention that DNS experiments effectively resolve turbulence even in close proximity to the domain boundaries. However, we exclude it because the goal of this study is to study well-developed turbulence, as stated in Line 170.

Regarding the observed spread of points, it is important to note that while the fully-developed steady state was achieved (verified using the standard criterion of stabilised TKE, which showed no significant fluctuations over time), the parameters involving θ' required additional time to stabilise. We believe that increasing the simulation time would decrease the spread. We have included this clarification in Lines 272-277.

To study intermittency, one needs to determine higher-order two-point (or multi-point) moments. Intermittency is important for small-scale effects, and intermittency implies that higher-order moments of velocity and temperature fields have non-Gaussian statistics. In our paper we focus on larger scales determining one-point second-order correlation functions barely touching one-point third-order correlation functions only when it is necessary. It also means, we are not in a position to make strong statements about intermittency. This clarification has been added in Lines 338-343 of the manuscript.

The figures have been redrawn to enhance clarity, showing only every 6th data point and representing the viscous sublayer using dotted light lines.

The concluding section has been restructured to emphasise the conclusions drawn from this study, summarise the achieved results, outline the remaining issues, and discuss future perspectives.

The minor remarks were also addressed in the revised manuscript.

We hope these revisions effectively address the concerns raised by the reviewers. We are thankful for their constructive critiques, which have undoubtedly enhanced the quality of our work.

Best regards,

On behalf of all co-authors,

Evgeny Kadantsev