

## Reviewer 2

Comments have been addressed.

## Reviewer 1

I read the revised version and found it much improved. I suggest it for publication provided the authors further improve the points below:

1) I still find the use of the word 'turbulence' an abuse. In literature there exists a very clear definition of 2d turbulence, we must be in the presence of a direct or inverse energy cascade and a well-developed spectrum. In the case here discussed we are in the presence of some 'local' non-stationary mixing properties, at the best. The authors must clarify that when they use the word turbulence is a sort of 'poetic' license or just remove it.

In order to avoid any incorrect uses of the term, any references to turbulence have now been removed from the manuscript, replaced by references to the mixing of the flow where suitable. The only exception comes after Equation 3 in the Control Space section, where the end effector boundary layer's transition to turbulence is briefly referenced.

2) I would suggest plotting fig 10 with y-log axis and maybe normalizing it with some characteristic scale, e.g. the size of the container. Also, a reference to how  $r\_DTW$  is defined should be introduced in the main text.

Thank you for these suggestions - the container radius  $r\_c$  has been introduced to make this y axis dimensionless, which looks better in the new log scale. An explanatory sentence in the figure's discussion now reads:

*"The difference metric between every pair of trajectories,  $r\_DTW$ , is calculated via dynamic time warping, with Euclidean distance between downsampled trajectories used as the local cost measure to be minimized (See Experimental Setup)."*

With details of the downsampling & MATLAB implementation given in the Experimental setup section.

3) Similarly fig 3 and 7 it could be useful to have the y-axis in dimensionless form

We agree that this is a better/more general approach than the raw distances, and we have amended these plots (3b & 7b) to be normalized using the container's radius.