Dear Editor,

thank you for the thoughtful and considerate comments and suggestions on the manuscript. We have revised our manuscript. Here we repeat your comments in bold and write our responses in normal font.

You have made further adjustments to the paper in response to the comments one Referee 2 and I think that the fair option is now to proceed very quickly to accept the paper for publication in ACP.

On the basis of reading through the latest version of the paper myself I make the comments below -- please consider making further modest changes in response to those comments and provide a final version of the paper -- which I will then be pleased to accept.

abstract: 'aggregation' is mentioned in the first sentence of the abstract, but the term is not used again in the rest of the abstract. A reader might wonder whether the first sentence has any relevance to the rest of the abstract. I think that you are interested in the effect of a mean flow on the aggregated structure -- saying something like 'propagation of aggregated structures in convection' in the second sentence would help the reader see the link.

abstract l9: 'retards the propagation of the convection' would be clearer than 'retards the convection'. Incidentally this last line of the abstract seems an important conclusion, but '5% of the mean wind' may be misleading -- you don't actually know whether the effect is a fixed percentage of the mean wind (as the mean wind varies).

We appreciate Editor's suggestions to clarify the content in the abstract. We have modified the words as suggested.

l109: 'mechanism denial experiments' -- but in fact there is only one experiment.

This has been corrected to 'a mechanism denial experiment' (line 112).

l145:
'In the case of WISHE, the convective cluster moves against the mean wind (e.g.,urel <0ms−1).' -- what you actually mean here I think, is 'If the hypotheticated effect of WISHE was realised then the convective cluster would move against the mean wind'

This has been updated in line 150-151 in the revised manuscript.

l249: 'Even in the simulation with the dynamic feedback removed and the WISHE-induced asymmetry in surface fluxes preserved, the effect on the propagation of convective clusters is small.' -- why 'Even'? Isn't the point that in this case the effect is sustained, but weak by some measure?

Yes, this is the point that the effect is sustained but weak by some measure. The misleading adverb 'Even' has been removed in line 257 in the revised manuscript.

Two further comments -- which you may or may not wish to take into account in producing the final version of the paper. I am essentially setting out my own understanding of the paper -- if I have misunderstood something then you may wish to consider whether other readers may also have similar misunderstandings -- and alter the text a bit to avoid this. (Of you may consider that my misunderstanding unlikely to be shared by most readers.)

We would like to express our appreciation that the Editor shares this with us. This is important to clearly deliver what we learned from our study and to communicate with readers. Therefore, we have made changes to address the issues.

1) My own interpretation of your findings is that, whilst the effect of the mean flow might according to some have a significant effect on the propagation because of the associated difference in surface fluxes upstream and downstream of the aggregated system. You are intending to identify this effect by considering u_rel and finding that it is negative (i.e. in the opposite sense to the imposed mean flow. What you find is that u_rel is certainly negative, but a large part of the explanation for this is that the upstream/downstream different cannot be sustained close to the surface inding is that this effect cannot be sustained because the momentum exchange with the surface limits the upstream/downstream difference -- the low-level mean flow is quickly reduced in magnitude. Of course this does not rule out a sustained effect in a different system where there is active dynamical driving of the low-level flow.

> (line 171-172) "In the following sections we examine if the tendency towards stationarity is a consequence of WISHE-like symmetries by means of an upstream/downstream difference."
>
> (line 221-223) "The upstream/downstream difference cannot be sustained close to the surface because the momentum exchange limits it in our simulations. This does not rule out a sustained effect in a different system where there is an active dynamical driving of a low-level flow."

2) Personally every time I looked at this paper I had difficulty relearning what system it was exactly that you were studying. I think that you are considering a system in which, from the point of view of an observer fixed relative to the Earth's surface, at t=0 the air velocity at all levels is u_b, and you choose to observe/simulate the system whilst moving at speed u_b.

When the effect of the surface is transferred to the atmosphere above by a momentum flux, the velocity in the atmosphere naturally reduces towards that of the surface, i.e. in your frame of reference the velocity in the atmosphere naturally adjusts towards the value -u_b. When there is no momentum flux from the surface then the velocity in the atmosphere remains at u_b, i.e. in your frame of reference it remains at zero.

If you could make a simple statement saying something like that then it would help a lot -- the reader would not have to worry about which physical effects were included in your formulation -- equations (1) and (2) -- and which were not.

We tried to explain how the system works as easy as possible by introducing the conveyor belt metaphor but acknowledge that the description remains unclear. To clarify this, we have made changes in the revised manuscript:

> (line 71-72) “In the long run when the effect of the modified surface fluxes is transferred to the atmosphere above by the momentum flux, the velocity in the atmosphere naturally reduces towards that of the surface.”
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> (line 91-92) “From the point of view of an observer fixed relative to the moving surface, at t = 0 the air velocity at all levels is u_{b}, and the model framework is also moving at speed u_{b}.”
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> (line 95) “… when the air and the convective cluster start to move …”
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> (line 158-159) “(At this point the convective cluster appears stationary to the observer.)”