

## ***Interactive comment on “Large-eddy simulation and stochastic modelling of Lagrangian particles for footprint determination in stable boundary layer” by Andrey Glazunov et al.***

**Anonymous Referee #2**

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The manuscript by Glazunov et al. focuses on scalar dispersion and flux footprint functions in the case of the stable atmospheric boundary layer based on Large-Eddy Simulation (LES) and Lagrangian stochastic modelling. The approach is fairly straightforward and I see no scientific problems. I enjoyed reading the paper; in particular, the paper is well organized and well written, the presentation of the material is clear and concise. I am entirely in favor of publishing this paper in the Geosci. Model Dev. I only have a few minor comments, which authors should take into account.

Page 1, line 18. Replace 'the near-surface flux' by 'the surface flux' because it's defined for  $z=0$  (cf. "L is the Obukhov length at the surface" on page 16, lines 1-2).

Page 1, lines 18-19. Replace 'denoting the ensemble averaging' by 'denote a  
C1

time/space average'.

Page 3, line 24. Although abbreviations 'LSM' and 'RDM' are defined in the abstract and later on page 7, they should be also introduced in the text on first occurrence.

Figures 1-10. I recommend use color version of the plots (similar to Fig. 11) instead black and white.

I believe that authors can clarify these points before finalizing the manuscript.

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