

## ***Interactive comment on “Mixing processes and exchanges in the tropical and the subtropical UT/LS” by R. James and B. Legras***

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### **Answer to comments by Referee #2**

We thank the referee for his careful reading and his useful comments.

1. (p10630) The words "in mixing of tropospheric air" were somewhat ambiguous within the context and have been replaced by "injection of air marked by its tropospheric origin".
2. (p10631) To the best of our knowledge, there is no generic reference to the AVE campaigns at the moment.
3. (p10634) We meant "patches".

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4. (p10635) The number of particles is 200. Corrected in the text.
5. (p10637) We have used the suggestion of the referee to replace "upper subtropics and tropics" by "subtropical and tropical upper tropical troposphere".
6. (p10641) Done
7. (p10646) We were not really intending to limit the motion of air to be quasi-horizontal but the referee has led us to add "that we cannot distinguish whether the transport is quasi-isentropic and direct across the subtropical tropopause or occurs by rising first across the tropical tropopause, followed by horizontal mixing and descent".
8. (p10646) "is relatively shorter but agrees with the current results issued from" was indeed confusing and incorrect. It has been replaced by "agrees with the lower estimates found in" (the previous in situ and model studies)

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