Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2020-974-RC2, 2020

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Study of second-order wind statistics in the mesosphere and lower thermosphere region from multistatic specular meteor radar observations during the SIMONe 2018 campaign" *by* Harikrishnan Charuvil Asokan et al.

Anonymous Referee #1

Received and published: 22 November 2020

The histogram provided by the authors emphasized the issues of their methodology even further. Vertical winds in the MLT greater than 1 m/s are not 'intriguing' or 'suspicious' are most likely wrong. A mean vertical wind velocity of 1 m/s corresponds to 600 km upwelling over 7 days. This would indicate that there is enough energy at the MLT available to reach a near Earth orbit. These results point out to a serious problem in the methodology described in the manuscript and to publish them without explanation and simply say it requires further investigation is scientifically irresponsible. In support

Printer-friendly version

Discussion paper

of the comment I am attaching a similar histogram from another meteor radar using a similar methodology. As it can be seen in this plot, vertical wins do not exceed 0.5 m/s. The authors of this manuscript come from an institution with a long tradition of studies of middle atmospheric dynamics, I recommend they consult these results with their colleagues at their institute about the implications of publishing such results.

Until this is issue is solved, this paper should be declined

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2020-974, 2020.

Printer-friendly version

Discussion paper

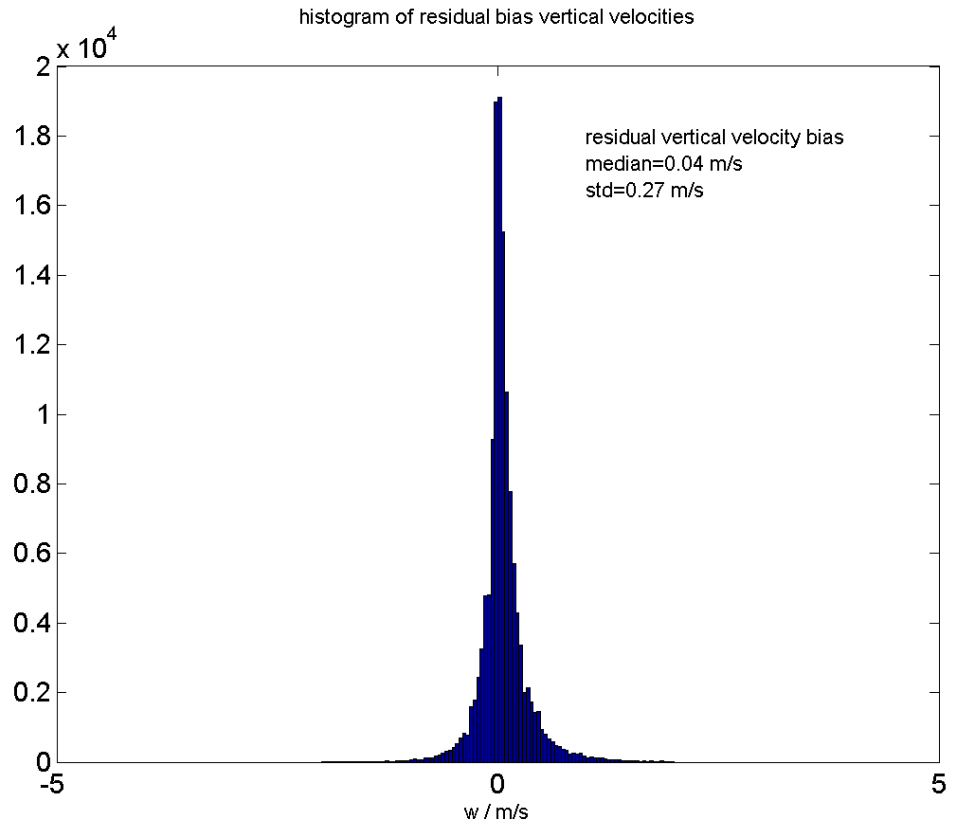

Fig. 1. Vertical velocity (residual bias) for an undisclosed meteor radar