

***Interactive comment on “Novel specular meteor radar systems using coherent MIMO techniques to study the mesosphere and lower thermosphere” by Jorge Luis Chau et al.***

**Jorge Luis Chau et al.**

chau@iap-kborn.de

Received and published: 5 March 2019

We thank the referee for her/his careful review and suggestions. Here we comment on the major concern, basically the lack of quantitative comparison. Specifically, a) We are adding scatter plots for the wind comparisons of the different multi-static configurations (MISO, MIMO-MISO-like, MIMO-SIMO-like) vs the monostatic winds, for both zonal and meridional comparisons. b) We will add a corresponding discussion to the quantitative wind comparison.

We are not doing the quantitative comparison of other parameters because: 1) Echoes from different Bragg wavelengths are received due to the bistatic geometry. In the

C1

monostatic case, all the observations come from  $\lambda/2$  irregularities (where  $\lambda$  is the radar wavelength). In the case of multistatic, the effective Bragg wavelength is greater or equal than  $\lambda/2$  depending on the angle between the transmitting and scattering vectors (see e.g., Stober and Chau [2015]). Therefore, the altitude distribution would be slightly different and we think from the qualitative comparisons of panels c for Figures 2, 4, 6 and 7, they are in reasonable agreement. 2) The sampling volumes of the different links are not the same, therefore we cannot do a point to point comparison, except for the MIMO links (MISO-like vs SIMO-like), that we are already doing in Figure 8 (old version). By the way, some differences in the wind comparison might be due to the slightly different volumes being used, we will discuss accordingly in the revised text.

A point-to-point reply and action taken will accompany the revised version.

---

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-287, 2018.

C2