

Review of “Separation of Convective and Stratiform Precipitation Using Polarimetric Radar Data with A Support Vector Machine Method” by Yadong Wang, Lin Tang, Pao-Liang Chan, and Yu-Shuang Tang

Thanks for the revised version of the manuscript. I see part of my comments and suggestions considered. Thank you. Thanks for carrying out the sensitivity study. I have the feeling that it may be better to remove this portion as it stands right now. In particular the scores for different ZDR bias indicates the best scores for the BAL -0.5 assuming a bias of ZDR = -0.2 dB version. So is this an indication, that there is actually a ZDR bias in the underlying data? See e.g Fig 10. So overall, the paper presents a new method that has potential, and should be published. But to me the results are not clear enough because an evaluation of the methods is complicated by the obvious data quality issues.

Also, I'm a bit confused about your choice of the rho_{hv} thresholds. The reasoning and consequences on the method need to be elaborated see also below.

Some probably minor revisions are needed.

I have some more comments as I go along the paper.

L 16: relatively low R: please provide a number to get an idea on what is considered a low T'R

L 18: state why the QPE accuracy is better if one makes a distinction into those two regimes.

L 40. “An alternative scanning scheme” Something seems wrong in the sentences (grammar)

L 58: The use of lowest unblocked sweep is used. Don't you have to live with the lowest sweep, even if it is partially blocked. You don't have another sweep available, see l. 38

L 107: Threshold of 0.9 is too high to discriminate clutter and meteorology. You will lose valid meteorological data! I think I addressed this already in my initial review. You have to show or discuss why this choice doesn't affect your results. I would expect that you will have problems with your convective data set.

L 165: if you use a rho_{vh} threshold of 0.9, you will exclude already a good part of the bright band data!

L 186: really a rho_{hv} > 0.98?

L 205: would be good to state again what those threshold represent... actually, I tried to find the meaning of T_0 in the previous sections and I couldn't find it. Please clarify! What does a threshold of -0.5 physically actually mean?

Fig5: why do you consider only the area in the white circle? What about the rest?

L 265 ff: You rightly state that the potential data quality problems. As such, I wonder to what extent a comparison of the methods is really meaningful. Here the SVSM seems to outperform the the BAL methods, correct? On the other hand, the CSI is rather poor for all methods, correct?

L 285: why don't you show the scores from the stratiform event?

L 295: ZDR calibration bias....: plus the over correction due the attenuation correction, or? But I don't understand the reasoning that positive ZDR bias should lead to more stratiform classification.