

Interactive comment on “Solid hydrometeor classification and riming degree estimation from pictures collected with a Multi-Angle Snowflake Camera” by Christophe Praz et al.

Anonymous Referee #2

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In their study, the authors present a new method to classify snowflakes based on MASC observations. The method is very valuable and well presented. I appreciate the high quality of the paper, I have never reviewed a paper with only one slip of the pen before.

I have only few comments, most of them concern parts where I had trouble understanding what was exactly done. Note that I'm not familiar with multilinear logistic regression, therefore I cannot evaluate whether every step of the methodology is 100% correct.

I recommend the paper to be published after minor revision.

p3, l6: hyperspectral images of what? Sec 3.5 Did I understand that correctly that the descriptors are ordered here by information content? If yes, please say so clearly.

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This also applies to p13 l5 “for each subset of features” which sounds like you would have chosen a set of feature randomly. Maybe the authors can say something like “Subsets of features were created by subsequently adding features from highest to lowest information content as presented in sec 3.5. For each subset. . .”

p12, l1: Please define 4-fold cross-validation

p14, l7-15: I don't understand how you can estimate BER for the training dataset? Isn't BER supposed to be perfect for the training dataset?

p14, l1: The only slip I found: on -> in

p16, l9: Other instruments (e.g. PIP) have only one camera. Can you quantify the benefit of using three instead of one camera? Similar how you quantified the importance of gray scale images?

Fig 2: Please define a.u. And can you draw a vertical line after 7 components in c)?

Fig 7: I would recommend to add titles to the subfigures: a) type classification, b) riming etc.

Fig 8: x-axis is not in %.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-417, 2017.

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