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Atmospheric Measurement Techniques Discussions

Interactive comment on "Toward a variational assimilation of polarimetric radar observation in a convective scale NWP model" *by* Guillaume Thomas et al.

Anonymous Referee #2

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General comment: The paper presents a new observation operator for dual-polar radar reflectivity data to take into account the shape, phase and distribution of hydrometeors. Having explored the innovations and Jacobian sensitivities the paper clearly paves the way for using the new observation operator in Arome-France LAM NWP model. However, I expected a very short paragraph or part in the introduction section to point out the current observation operator used in Arome-France which does not take into account the dual-polar reflectivity parameters. Generally, the paper is well written and fulfils the criteria requested.

Technical comment: I suggest to change "ZHH" to "horizontal reflectivity (ZHH)" in line

43 because ZHH is mentioned for the first time after the abstract, to not use superscript for "10th" in line 160, to change "1 h" to "1h" in line 168, to replace "Here" with "In figures 1g,h" in line 196, to replace "an horizontal" to "a horizontal" in line 428.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-462, 2019.