

## General Comments

The article addresses a scientific question within the scope of ACP, namely, the role that hydrated aerosols perform in light extinction in mists and fog. The paper uses an analysis of field observations made during November 2011 near Paris to make its points. The field observations are analyzed to learn about the underlying physical processes. The paper provides an interesting analysis of these observations that has not been done before, on a topic and with a field campaign already in the literature. Other studies done on the data collected during this field campaign are cited in the paper. The limitations of the instrumentation are discussed in depth and uncertainty quantification is presented. In general the structure and content of the paper is sufficient to communicate the authors' methodology, results and conclusions. Some clarifications are requested in the specific comments and presentation quality is addressed in technical comments.

## Specific Comments

p. 7, lines 7-10: the sentence beginning "Consequently" is unclear, in particular the end of the sentence.

p. 10, lines 1-4: provide more detail and reasoning on the contribution of the items listed to the 30% uncertainty estimate.

p. 10, first full paragraph: What is the instrument accuracy over the whole range? The instrument that provides the largest values is presumed to be right. Is this still likely an underestimation? Are certain ranges more likely to be accurate than others even within whichever instrument is chosen as "correct?" Are there ever cases where the instrument giving larger values is not the one with the greatest sensitivity in that region? Please clarify this paragraph and perhaps cite some more papers specifically dealing with the performance of the two instruments. There are selected bibliographies provided on the manufacturer website for the FM100 at least as a place to start:

<http://www.dropletmeasurement.com/fog-monitor-fm-120>

J. K. Spiegel, P. Zieger, N. Bukowiecki, E. Hammer, E. Weingartner, and W. Eugster, "Evaluating the capabilities and uncertainties of droplet measurements for the fog droplet spectrometer (FM-100)." *Atmos. Meas. and Tech. Discuss.*, 5, 3333–3393, 2012. doi:10.5194/amtd-5-3333-2012

P. 11, Figure 1 description: Are these single 5 minute sampled values at the UT listed? Or are they averaged over the 15 minute period mentioned in Section 2? Are these meant to show different characteristics of the different fog events or is this

level of variability also seen within the individual fog events? Why is only one of the instruments included in the plots?

p. 12, lines 1-3: this is unclear. Why could the 1 km convention not be applied in order to distinguish between the two types and then the events further stratified by the droplet presence? This could be used to make a conclusion about the accepted definitions of fog/mist. The reasoning becomes clearer as the section continues but there should be a clear, succinct statement here, and the phrase “could not be applied” is misleading.

p. 12, lines 9-10: Clarify this is because of the uncertainty in the available measurements in this field study and not because the uncertainty is too high in a general scientific sense.

p. 13, lines 7-8: If the FM100 did not provide the correct LWC, what does that mean for its reported size distributions during these times?

p. 18, lines 11-13: If filtering is being described here (wording “eventually agreed” makes me think that) please make it much clearer and more specific.

Conclusions are clear and well stated.

#### Technical Comments

The article has many grammar mistakes and some unclear language and sentence structure. There should be extensive revision to correct this deficiency. A few examples are provided here but the list is not exhaustive.

#### Examples:

p. 2, line 5: “which are the most efficient to interact” should be “most efficiently interact”

p. 11, line 8: “varying” should be “vary”

p. 11, last line: “chart flow” should be “flow chart”

p. 13, line 28: “associated to” should be “associated with”; remove “however”

Other technical comments:

Table 1: Uncertainty is missing for the FM100 and the CPC.

Table 5: The columns don't line up correctly so it is hard to immediately tell which method goes with which columns.

Figures 1,4,5,6,7,10: Increase font sizes for axes labels and tick marks.