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Atmospheric Measurement Techniques Discussions

Interactive comment on "Development and characterisation of a high-efficiency, aircraft-based axial cyclone cloud water collector" *by* Ewan Crosbie et al.

Anonymous Referee #2

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This is a very clearly written manuscript on a performance of recently modified and improved aircraft water collector designed to capture cloud water samples (separated from aerosol) for post-flight analysis. This major research and engineering effort of the large group of authors resulted in construction of a new, very useful instrument for chemical characterization of cloud water. AMT is a right choice to publish results of this study. The design and theoretical performance of the probe analyzed by means of numerical modeling are carefully described. Then, results of the in-flight measurements on two very different research aircrafts, accompanied by post-flight analysis of collected samples are presented in discussed. The only comment I have to the manuscript is that there is not much on a performance of the probe in the presence of larger droplets,

e.g. drizzle. Was this problem analyzed? Does it influence capture efficiency? Does presence of larger droplets (presumably grown in a different region of the cloud than the measurements are performed) affect the results? I do not ask for an in-depth analysis of the above, but for some comments which might be useful for the future users of the instrument. Additional information on the author contribution along AMT guidelines should also be included. These are my suggestions for a minor revision of the manuscript.

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