

# **A comparison of fog visibility parameterizations using microphysical measurements**

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Using in-situ observations collected during the Radiation and Aerosol Cloud Experiment (RACE), some new fog visibility parameterizations have been proposed by Gultepe et al. (2006). Their parameterization was based on the relation between visibility and a combined parameter as a function of both droplet number concentration and liquid water content. Their proposed visibility parameterization is tested using the new data sets collected in Clermont-Ferrand fog project. During this project, experiments to gather the data, representing warm fog, were carried out in natural conditions in order to better understanding of the fog microphysics. For this purpose, an optical particle counter with a size range of 0.4 to 40 micron and other conventional environmental instruments measuring temperature and relative humidity were deployed in the field. The results showed that the results from both projects are found to be comparable, and it is emphasized that droplet number concentration less than 5 micron can be very important for fog visibility studies.