Atmos. Chem. Phys. Discuss., 9, C8796–C8797, 2009
www.atmos-chem-phys-discuss.net/9/C8796/2009/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Reactive Halogens in the Marine Boundary Layer (RHaMBLe): the tropical North Atlantic experiments" *by* J. D. Lee et al.

Anonymous Referee #1

Received and published: 21 December 2009

This is an extended overview of the "Reactive Halogens in the Marine Boundary Layer (RHaMBLe) Programme" which addresses the study of photochemical processes in the north-east tropical Atlantic atmosphere and the role of halogen chemistry on radical reactions and the oxidative capacity of the lower atmosphere. The "RHaMBLe" research programme includes a set of long term measurements at the Cape Verde Atmospheric Observatory and two, simultaneous, intensive spatial experimental campaigns; one, horizontally, across the eastern Atlantic, between Cape Verde and the Iberian Peninsula, using an heavily instrumented research ship; the other, vertically, across the boundary layer and the free troposphere with an instrumented aircraft.

This paper describes the objectives and scientific context of the research programme and makes a general introduction to the details of measurements and results, which

are further developed and discussed in detail in specific papers submitted, in parallel, to this scientific Journal. This paper includes: a general description of equipment and measurement methodologies used on land, sea and air; the presentation of various examples of trace compound levels time series; the details of meteorological conditions, of the physical vertical structure of the troposphere and of air mass transportation processes and trajectories.

The manuscript is well written and the descriptions and examples given are clear and easily understood, supported in Tables and Figures well designed and drawn. In reality I have no particular criticism to present in relation to any part of the manuscript. The only criticism is in relation to the total manuscript length which makes it tiresome to read, but I understand that it would be difficult to reduce much this type of overview paper that condenses so many parallel measurements and experiments in three independent measurement platforms.

So the paper is a useful introduction and repository of backup information necessary and complementary to the understanding of the various specific papers dealing with particular aspects of the “RHaMBLe” campaign and I recommend strongly its acceptance for publication.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 21717, 2009.