

Interactive comment on “Iodine-mediated coastal particle formation: an overview of the Reactive Halogens in the Marine Boundary Layer (RHAMBLE) Roscoff coastal study” by G. McFiggans et al.

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We'd also like to thank this referee for taking the time to read this overly long paper. Again, the referee correctly identifies the purpose of the manuscript, but again has concerns about the balance of the material as presented.

As mentioned in response to referee 1, the intention was to present a paper that not only introduced and summarised the measurements made during the RHAMBLE Roscoff deployment, but also could stand alone as a coherent piece of the scientific lit-

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erature. In retrospect, much of the material describing the instrumentation could have been omitted and this has been done in the revised manuscript in response to the criticisms of both reviewers.

The discussion and conclusion are thereby moved upfront in the paper. However, we do not find it useful to discuss the results in the light of general studies reporting new particle formation in polluted environments. Such studies are invariably associated with events dominated by aerosol sulphate and uninfluenced by marine air. The differences between the Roscoff and Mace Head studies and those without marine influences are the coastal signatures closely following the tidal cycle. It is clear in both locations that the particle formation follows macroalgal emissions and subsequent photochemistry. The Pittsburgh particle formation climatology is not necessarily surprising since the particle precursors are likely from the same pollution source as the agents that could suppress the nucleation (the pre-existing aerosol surface area as a condensational sink). In Roscoff, the particle precursors are natural whilst the pollution is anthropogenic and is still incapable of suppressing the particle formation. We have therefore chosen to limit the discussion only to those locations that are directly comparable.

Specific concerns:

- i) p26423, line 15-16 "higher" and "larger" replaced by "highest" and "largest"
- ii) p 26432, line 15 "in situ" has been capitalised to "In situ"
- iii) p 26463, line 6 "in situ" has been capitalised to "In situ"
- iv) p26464, line 6 "concentrationunder" now "concentration under"

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