



SDI Review Form 1.6

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_51086
Title of the Manuscript:	Electric Phenomena as a Possible Driver of Snow-Air Interactions: Does this Factor Act Synergistically with Photoinduced Effects?
Type of the Article	Opinion Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	Line 74: "the poor reproducibility of ODE". Explain why.	<p>ODE initiation is poorly understood phenomenon yet. Field experiments have been set up to determine what meteorological conditions can influence these events and what substrates play role in halogen emission. Once Kaleschke et al.(2004) [1] found that frost flowers (FF) growth can trigger ODE, then Simpson et al. (2007) found that "First-year sea-ice contact predicts bromine monoxide (BrO) levels at Barrow, Alaska better than potential frost flower contact" [2]. In other experiments ODE was associated with different substrates, which included sea salt deposited to the snowpack, acidified sea salt aerosols and fine sea salt aerosols. In recent years experimental data have shown that blowing snow events can trigger ODE [3, 4].</p> <p>Proposed hypothesis suggests that ODEs may be initiated by the electric-field gradients created at the sharp tips of ice formations as a result of the combined effect of various environmental conditions. Contributions of different factors change from case to case. If humidity and temperature conditions stimulated occurrence of ice-needle morphology of frost flowers tips during their growth, ODEs can be triggered by frost flowers growth because FF's tips are so sharp, that corona can appear there even under fair weather conditions. Less sharp grounded object can require higher ambient electric field value to achieve corona threshold value at the tip. Such increase of ambient electric field value can be caused by cosmic influences, presence of open water, wind, etc.</p> <p>I tried to explain it by additional figure and in the text. Thank you for your question. I suppose that my text became more clear.</p> <ol style="list-style-type: none"> 1. Kaleschke, L., Richter, A et al., 2004. Frost flowers on sea ice as a source of sea salt and their influence on tropospheric halogen chemistry. Geophys. Res. Lett. 31, L16114. 2. Simpson, W.R., Carlson, D., Honninger, G., Douglas, T.A., Sturm, M., Perovich, D., Platt, U., 2007a. First-year sea-ice contact predicts bromine monoxide (BrO) levels at Barrow, Alaska better than potential frost flower contact. Atmos. Chem. Phys. 7, 621–627. 3. Jones et al, BrO, blizzards, and drivers of polar tropospheric ozone depletion events Atmos. Chem. Phys. 2009, 9, 4639-4652. 4. Blechschmidt, A.-M., Richter, A., Burrows, J.P., Kaleschke, L., et al., 2015. An exemplary case of a bromine explosion event linked to cyclone development in the Arctic. Atmos. Chem. Phys. 15 (17), 24955–24993.
Minor REVISION comments	"(seminar on June 22, 2018, IGE, Université Grenoble Alps)." convert into a reference (?)	Thank you. I converted.
Optional/General comments	The manuscript only presents a comment. A spurious thought of the author. Yet, the policy of the journal is to not reject papers without novelty and the manuscript can thus be published. While there is nothing in there that might interest a reader, there is nothing on which to reject the manuscript. Yet another modern publication.	



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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	