



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	<p>This is a 'good' paper. If it was extended, it might become a 'great' paper!</p> <p>Title: I would put in '<i>Polar Snow Air Interactions...</i></p> <p>Abstract: Do not mention 'author' but <i>Author proposed a concept of how to consider electric phenomena</i></p> <p>Should say: <i>A concept is proposed to consider electric phenomena damaged the accuracy of our instruments</i> Was it surrounded by a Faraday cage to minimize E-M effects?</p> <p><i>result of corona occurring during a blizzard</i> I would have loved to see this in a picture.</p> <p><i>Triboelectrification</i> Are you defining it?</p> <p>Will these effects be influenced by areas where the ice is near the water, the latitude, longitude, location of the north-south magnetic poles, or day and night?</p> <p>“</p> <p><i>frost flowers</i>,” Figure or picture would be nice...</p> <p>You mention an ODE. Would it be worthwhile to put together a straw man version of what should be expected based upon certain variables?</p>	<p>Thank you very much!</p> <p>I agree. I changed the title and changed text of abstract as you proposed. I also changed the sentence <i>Author supposes that these factors are not independent</i> with aim to remove mentioning the author.</p> <p>I think that no. Such high level of electrification was not supposed to be observed and they were not ready to prevent these negative effects.</p> <p>I added a picture of frost flower with corona at the tip. But it can be any other sharp objects that are connected to earth.</p> <p>Electric field strength during blizzards was defined by many authors. It increases significantly reaching values of 30 kVm exceeding fair-weather field values (100-130 V/m) by two orders of magnitude. I added some information and few references [7-8] into the text. It was discussed in details in my previous article [10].</p> <p>Of course. They'll be influenced. Less sharp grounded objects 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 (determined by latitude and longitude, for example, location in auroral zone), humidity (determined by location near the open water), wind, even by diurnal variation, etc. I tried to explain it by additional figure and in the text.</p> <p>I added a picture of frost flower.</p> <p>I made already some evaluations and have shown the possibility of such processes in my previous article [13], where I have shown that electric-field gradients at the tip of frost flower may be sufficient for the onset of point or corona discharges followed by generation of high local concentrations of the reactive oxygen species and initiation of free-radical and redox reactions. But now it becomes more and more clear to me, that these processes are much more complicated. There are many participants that act together to contribute electrification of snow. And they are not even considered yet. In this opinion article I wanted to point out the role of photo effects. But some electrification can also result from sublimation processes under the wind, and of microphysical transformations. I think that snow cover is like a cloud and accumulation of electric charge by snow grains can be understood using theory of atmospheric electricity. I'll try to develop this model in my future articles.</p>
Minor REVISION comments		



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Optional/General comments		

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>	