REVIEWS ON THE MANUSCRIPT [28]

Reviewer 1:

The manuscript is written clearly and contains all the main chapters that should be included into a research paper. It is evident that the author has performed a good background literature survey. The manuscript describes the physics of the process and provides particular references. Some historical information is given.

The experimental setup, as presented in the manuscript, delivers good results and indicates the talent of the author as of an experimental physicist. The theoretical part features relatively complex calculations.

At the same, the work contains a number of issues and inaccuracies:

1. Page 2 says that the water splits into ions H^+ and OH^-. It is not very clear what forces may cause it, since the binding energy is very high.

2. The known literature says that this effect is characteristic only for non-distilled water, where contaminant salts dissociate, and their ions are the carriers of charge. This aspect is mentioned, but never fully explained in the text.

3. Only the introduction features the references to the literature, while there are no references in the experimental and theoretical parts. Should any references be added? Are they necessary?

Overall, the work has a high scientific level and deserves publication.

Reviewer 2:

The Figure 1, showing the Kelvin's dropper : It looks like the author has taken this figure from a book. Very few explanations are given on it. It is not explained what the letters (A, B, C …) mean. A and B look like capacitors, but why the outer plate of one capacitor (A) is connected to C (which looks like ground), and the outer plate of another capacitor (B) is not?

Much attention is paid to the influence of H^+ / OH^- separation on the phenomena. But the fact how the charges of these ions are compensated is not described clearly. If an ion H^+ meets an electron, it would form atomic hydrogen and leaving the bulk of water. From my point of view, the process of discharge of droppers is not described completely.

Evaluation of voltage growth rate : too many equations. Should less important features be less detailed? Some equations can be skipped, as the calculations are quite simple.

Evaluation of accumulated charge : I do not understand how it is connected to the problem. In any real conditions all the ions (with the suggested fraction of 10^{-7}) of water would not be separated by Kelvin's dropper. Why not use your theory for voltage growth rate with a small initial charge and real parameters of water (volume and electrical properties) to calculate an actual "ideal" charge instead? The electric forces might also themselves split the water molecules into ions. This fact can also change the charge growth rate and the maximal charge.

The manuscript is recommended for publication if the suggested details are clarified.

Editorial request:

References: The list of references is not typeset properly. Are the references [1] and [2] books, articles, or web pages? Please type the references in a way that the readers may immediately understand where and how they may look for a document. Add the publisher if it's a book, volumes and journal titles if it's a periodical, or the URL if it's a web page.

Consistency of units and spelling: Please use a blank spacing between a numerical value and its dimension (30 kV, not 30kV). Please check whether short notations (e.g. *C* or *V*) or full notations (e.g. *Coulombs* or *Volts*) are used throughout the text. Note that the short notations are clearly preferred. Please write either *Fig.*, or *Figure*, or *figure* uniformly in the manuscript.

Sources of images : please provide direct information on where the Figure 1 and Figure 2 are taken from. Are all other images of own work?

This request was focused on the technical side of the manuscript and abstained from judging its physical essence.