



***Interactive comment on “Influence of a single lightning on the intensity of an air electric field and acoustic emission of near surface rocks” by S. E. Smirnov and Y. V. Marapulets***

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Dear Reviewer,

We very much appreciate your attentive reading of the manuscript. As for your remarks, we can say the following ():

- > Spelling of formula (1) is not very good. The authors must used
- > MathType or some other editor. “Ez(t)” is not the “electric field
- > potential gradient”. It is the vertical component of the electric

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> field, etc.

I agree. Fix it.

- > I suggest to reject the formula (2). Instead, just give numerical
- > values ??for the coefficients referred to in (1). Of course, with an
- > indication of the physical dimensions. Lack of dimensionalities in
- > (2) makes a bad impression.

Equation (2) remove, we represent the numerical values of the coefficients.

- > It is rather strange to read that “energy fall occurs according to
- > the law of  $1/r^2$ ”. Firstly, the energy is conserved. Secondly, it is
- > not clear, what kind of energy (electrical, magnetic, mechanical,
- > thermal). And why  $1/r^2$ ? This piece requires processing.

Reduction of energy with distance from the place of discharge cloud-to-ground occurs complex law, which requires additional evaluation tool observations. We have presented arguments for the evaluation and the  $1/r^2$  law did not go into details of this process. According to our colleagues, they broke down geophysical instrumentation, which is located a few kilometers from lightning. However, the study of current distribution in the soil (telluric current) from lightning is beyond the scope of our manuscript.

With best regards, the author of the article.

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Interactive comment on Solid Earth Discuss., 4, 627, 2012.

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