

## **Preliminary study of the effects of thunderstorms activity over rate the cosmic rays**

### **Content**

Lightning is an atmospheric electrostatic discharge (ESD) caused by the concentration of static charges that generates atmospheric electric fields with potential limit  $\sim 10^8$  volts. To such electrical potential, the air molecules are ionized, and electrostatic discharge arises (dielectric breakdown). A cloud - ground discharge radiates a strong electromagnetic pulse which heats the atmosphere to values of  $\sim 30$  thousand degrees Kelvin and generating electric currents  $\sim 10^4$  Amp. On the other hand, the primary cosmic rays (CR) are basically cosmic protons that, when they hit the atmospheric protons form the Extensive Air Showers (EAS). During the ESD, considerable changes are generated in the local electric fields, the electric force and polarity of the electric fields change abruptly, and this leads to a perceptible change in the rate of the cosmic ray. In this work we present a study preliminary of the effects of thunderstorms activity over rate the cosmic rays.

### **Summary**

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