

## **ELECTRIC EXPLOSION OF MICROWIRES BY HIGH FREQUENCY CURRENT.\***

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In avalanches of runaway electrons, which are formed in high-altitude atmospheric discharges, the average electron energy is several megaelectronvolts. For such high-energy electrons, the loss of energy by bremsstrahlung is significant when they collide with gas atoms. The aim of this study was to evaluate the effect of bremsstrahlung on the exponential growth length of a runaway electron avalanche. It has been shown that taking account of the bremsstrahlung produced by the electrons of an avalanche gives corrections of no more than a few percent to the avalanche exponential growth length. The corrections are maximum for electric field strengths close to the threshold below which the avalanche electrons fail to become continuously accelerated. The effect of bremsstrahlung decreases with increasing electric field strength. The higher the atomic number of the gas in which an avalanche of runaway electrons propagates, the greater the corrections[1].

### REFERENCES

- [1] Oreshkin, E. «Effect of bremsstrahlung on the characteristic growth length of an avalanche of runaway electrons. Europhysics Letters», 136(1), 15001, 2022.

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