Effect of configuration and dimensions of reactor electrodes on electrical and optical corona discharge characteristics

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Abstract:

An experimental parametric study is made to investigate how the electrical corona discharge characteristics are influenced by the geometrical configuration and dimensions of the reactor and the electrode polarity of the applied voltage. Furthermore, features of the corona discharge plasma formed around the stressed electrode in some different gases are recorded photographically to provide more information on the physical mechanisms of the corona discharge in the investigated gases. The obtained results have been discussed in the light of gas discharge physics and its applications. © 2010 American Institute of Physics. doi:10.1063/1.3389188

Keywords:

Atmospheric pressure glow discharge (APGD), positive and negative coronas, charge simulation method.

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