

Finite Element Analysis Of Corona In Wire-Duct Electrostaticprecipitators

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Summary

This paper is aimed at the analysis of corona power loss associated with wire duct electrostatic precipitators (WDEP). The finite element method (FEM) is used to solve the Poisson's equation and a modified method of characteristics is used to satisfy the current continuity condition. The two methods are repeated iteratively to get a self consistent solution of the describing equations. The effectiveness of this approach is tested by comparing the computed results with previously experimental and calculated values. The agreement with experimental results is found to be satisfactory

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