

Electric Field Analysis of XLPE, Cross-Linked Polyethylene Covered Aerial Line and Insulator Lashing

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Abstract : Both sparse lashing and dense lashing are applied to secure overhead XLPE (cross-linked polyethylene) covered power lines on ceramic insulators or HDPE polymer insulators. The distribution of electric field in and among the lashing wires, the XLPE power lines and insulators in normal clean condition and when conducting materials such as salt, metal particles, dust, smoke or acidic smog are present is studied in this paper. The ANSYS Maxwell commercial software is used in this study for electric field analysis. Although the simulation analysis is performed assuming ideal conditions due to the constraints of the simulation software, the result may not be the same as in real situation but still be of sufficient practical values.

Keywords : electric field intensity, insulator, XLPE covered aerial line, empty

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