On the influence of inclined lightning channel on lightning induced voltage evaluation

ABSTRACT

This paper investigates the influence of inclined lightning channel on induced voltage on the line. The angle variations of inclined lightning channel may cause the voltage to be induced at different values for different points along the power line. This behaviour may affect the line's lightning performance if the peak of induced voltage is greater than the critical flashover voltage (CFO) of the line. This induced voltage is expected to be increased when the inclined angle with respect to the observation point is decreased. Appropriate method of induced voltage algorithm with respect to the incline lightning channel will be developed and compared with other method. The outcome of this study would be useful for the utility for their planning and selection of appropriate protection scheme for the line.

Keyword: Component; Lightning induced voltage, Inclined lightning channel