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Lightning back flashover double circuit tripping pattern of 132 kV lines in Malaysia

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ABSTRACT

This paper presents a study on flashover patterns due to double tripping using EMTP software. The simulation was performed on a 132 kV line double circuit for economic installation of transmission line arresters (TLAs). The simulation results were validated with the field data of 132 kV transmission line in Malaysia. A vertically configured double circuit transmission line was modelled and the effects of tower footing resistance, lightning current values, power frequency voltage and the coupling effect of the phase conductors study were taken into account. A good agreement between the simulation and field data was obtained. A specific back flashover phase of the double circuit line can be determined by considering the effects that have been mentioned. Through determination of the tripping pattern, a suitable installation of line arresters and mitigation of line tripping due to back flashover can be achieved.

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