



OVERVOLTAGES TRANSFERRED TO LOW VOLTAGE NETWORKS DUE TO DIRECT STROKES ON THE PRIMARY

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Abstract - Lightning discharges are among the main causes of disturbances in distribution lines, causing from malfunction to damages of industrial, commercial and domestic equipment and devices. Besides, these disturbances are not, with few exceptions, registered in the data bases of power supply companies, as it occurs, for example, with switching operations, outages and load variations. This fact frequently causes conflicts between consumers and power companies regarding indemnity for damages in electronic devices. Lightning discharges also contribute, in a negative way, to the power quality indexes which are established by the Brazilian regulation agencies. In this paper, a typical distribution line was simulated by means of the A TP (Alternative Transients Program) to analyse the magnitudes and waveforms of the overvoltages transferred to the low voltage network when lightning strikes the primary line.