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SURGES IN LOW-VOLTAGE NETWORKS DUE TO DIRECT LIGHTNING STRIKES IN MV LINES

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Abstract - In this paper some results related to the features of surges in LV overhead distribution lines caused by direct lightning strikes in the medium voltage lines are presented. Simulations were performed using the ATP (Alternative Transients Program) and the main components of the distribution system were included in the study: lines, insulators, transformer, loads and ground resistances. Amplitude and front time of lightning current as well as the values of the grounding resistances and the lightning strike position were taken into consideration in the study.