

Impedance of capacitive electrodes and wires on the ground surface

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SUMMARY

In this paper we derive corrected for the edge effects formula for the capacitance of a thin disk over a conducting plane, and offer a number of generalized expressions for assessing the transfer impedance of a capacitive electrode over the ground with finite conductivity. It is shown that the transfer impedance of an insulated wire on the ground surface in a wide frequency range is described by the Cole-Cole formula with an exponent parameter slightly less than 1.

Keywords: contact impedance, disc capacitance.
