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An Empirical Formula for Determining the Edge Capacitance of a Rectangular Parallel Plate Capacitor

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Abstract: An empirical formula for determining the edge or fringing capacitance of a rectangular parallel plate capacitor system containing a dielectric between the plates is found for the case where the dielectric does not extend beyond the edges of the plates. The experiments were carried out using Alumina and polyguide dielectrics of different thickness. The results indicate that for the dielectrics and thickness used, the effect of the dielectric was negligible in determining this edge capacitance.

Keywords: Edge capacitance, rectangular parallel plate, dielectrics, thickness