

Surface Electric Discharge as a Microstrip

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In this paper, we summarize the results of the systematic studies performed on the morphology of the high voltage gliding electric discharge patterns on dielectric surfaces, observed on photographic films. In spite of the quite complex patterns observed, a statistical study reveals that the electric discharge has a geometry that can be described best using fractal shapes. The morphology of the pattern could be used to infer some physical properties of the discharge. The discharge being on the surface, behaves like a conducting path on a dielectric substrate. So, the pattern can thus be examined from the point of view of conventional micro strip structure. Hard modeling of some features reveals different characteristics that can be used for making models of the discharge.