

### 30 – 39 DIELECTRIC SURFACE FLASHOVER IN A SIMULATED LOW-EARTH-ORBIT ENVIRONMENT

電気システム工学科 教授 Hegeler Frank

Surface flashover on insulators under UV irradiation or with a plasma background was investigated with high-speed electrical and optical sensors in order to clarify differences in the breakdown development compared to the pure vacuum case. Results with a plasma background show a more rapid development in the breakdown initiation compared to measurements in vacuum with no plasma. With a magnetic shielding technique using permanent magnets, the duration of an applied voltage pulse can be increased by a factor of 2-3 without causing flashover. UV illumination on the electrodes decreases the flashover voltage (for the dc case) or the voltage pulse duration without breakdown (for the pulsed case), whereas UV illumination on the dielectric surface increases the flashover potential.

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