

Analytical Model for Vacuum Cathode Arcs in an Oblique Magnetic Field

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Abstract : In the last decade, the nature of cathode spot splitting and the current per spot depended on an oblique magnetic field was investigated. This model for cathode current splitting is developed that we have investigated with relationship the magnetic pressures produced by kinetic pressure, self-magnetic pressure, and changed with an external magnetic field. We propose a theoretical model that has been established to an external magnetic field with components normal and tangential to the cathode surface influenced on magnetic pressure strength. We mainly focus on developed to understand the current per spot influenced with the tangential magnetic field strength and normal magnetic field strength.

Keywords : cathode spot, vacuum arc discharge, oblique magnetic field, tangential magnetic field

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