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SEMINAR ANNOUNCEMENT

“Study of plasma dynamics in a packed bed plasma reactor (PBPR)”

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Packed bed plasma reactors (PBPR) are very useful for removal of environmental pollutants. Several computational studies have extensively investigated the plasma formation in a PBPR, however the exact details about plasma dynamics are still unknown. In this work, we have investigated the phase synchronized space and time resolved emission from a packed bed in a planar DBD, using an ICCD camera from top and side axis i.e. through a transparent electrode and between the two electrodes, respectively. It was observed that the plasma dynamics change with the applied voltage and power. The time resolved current shows that in each half cycle of the applied voltage, multiple discharge current pulses can be generated. The first current pulse in each half cycle generates a filamentary discharge. The subsequent pulse generates surface ionization waves over the surface. All the following current pulses generate intense plasma at the contact points between the dielectric pellets.