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APPLICATION OF SILENT ELECTRIC DISCHARGES IN ENVIRONMENTAL PROTECTION WITH SPECIAL EMPHASES IN AIR QUALITY MANAGEMENT

The silent electric discharges are used in environmental protection, especially in the field of electrostatic precipitators. The industrial equipments in this area are made exclusively with negative discharge electrodes. At the beginning, they were used in precipitating powders, but latter on the removal of aerosols and liquid droplets were also collected by them. In the clean room technologies the positive discharge electrodes started to be used. To decompose harmful components of exhaust and flue gases both polarities are used (positive and negative for discharge electrodes). According to the opinion of a high professional forum in the 80's, the electric discharges are not applicable to gas particles separation. According to the present experiments, it seems to be not really valid. The application of electrostatic discharge in the sinking tube of a cyclone is also abnormal, but working well according to our experiment. The ozone gas is applied in environmental protection with considerable success. The ozone is also produced mainly in silent electric discharges. In the research in the Departement we developed an ozone generator working with surface electric discharges.

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