



Electrical Discharge Plasma: An Advanced Oxidation Process for the Removal of Air Pollutants

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Application of electric discharge plasma in various domains of science and technology has been receiving increasing attention, as discharge plasma can generate a wide spectrum of reactive species, potential redox species, UV/Vis radiation, etc. Due to the fast response time, it has typical applications like removal of dilute air. NTP based indoor air cleaning has been proved to be effective for the removal of noxious gases, even under highly dilute conditions. This technique can be practiced on a large scale through a proper design of the plasma reactors and in order to improve the efficiency of the processes, combination catalysts/absorbents is necessary. This presentation will focus on:

- Basics of NTP reactor for air cleaning and the fundamental understanding on the parameters that influence the efficiency of electrical discharges in air environment
- Understanding the interaction between plasma and catalysts, and to arrive at a fundamental understanding of the catalyst activity in the presence

of discharge

- On the basis of the experimental investigations carried out, to optimise the discharge conditions and the catalysts preparation procedures in order to obtain a synergetic effect between the plasma and the catalysis
- To evaluate the efficiency of the investigated method of the removal of large volume of model pollutants

References

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