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## **A REVIEW OF FERROELECTRIC PACKED BED NON THERMAL PLASMA REACTOR FOR VOLATILE ORGANIC COMPOUNDS DECOMPOSITION**

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### **Abstract**

One way to improve the performance of non-thermal plasma (NTP) reactor for volatile organic compound decomposition is by the introduction of ferroelectric materials into the discharge zone of NTP. This paper is a review of the breakthroughs and the current status of the applications of this technology for the abatement of volatile organic compounds (VOCs). It covers the process of energy generation in NTP, VOCs decomposition processes and the effects of critical factors such as type of packed bed materials, dielectric constant, pellet size and shape on the VOCs removal efficiency. Finally the mechanism of VOCs decomposition process was also presented.

*Key words:* ferroelectric materials, plasma, non-thermal plasma packed bed reactor, VOCs

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