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(57) Abstract :

The present disclosure discloses a non-thermal plasma reactor 200 for real-time diesel exhaust treatment. The plasma reactor 200 includes a plurality of reactor chambers 202-1, 202-2... 202-N, which are fluidically connected to each other in a zig-zag arrangement and adapted to allow flow of diesel exhaust therethrough. Further, an electrode 204 is configured with at least one of the reactor chambers 202, wherein the electrode 204 has sharp edges and is configured to be energized and correspondingly generate intensified high-voltage electric field within the corresponding reactor chambers 202, which facilitates dissociation or neutralization of NOx present in the exhaust, thereby facilitating real-time diesel exhaust treatment.

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