

## Chemical Aspects of the Flameless Oxidation Applied for GasTurbine Combustor

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Low pollutant emissions became the basic issues in new combustion technologies concept. The present work aimed to find the performance characteristics of a gas turbine combustor operating in the flameless oxidation the specific operating conditions of gas turbine combustor with recirculating flue gases. Chemkin 3.7 code with applications "AURORA" for "PSR" and "PLUG" for chemical reaction calculations were applied. The following main results were obtained: 1.  $\text{NO}_x$  formation is governed mainly by combustion temperature, almost does not depends on recirculation ratio, but depends on combustion pressure. 2. Combustion delay time and minimum combustion temperature (for a given residence time) depends on combustion pressure and for a given pressure it depends slightly on flue gases recirculation ratio.

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