

Abstract Submitted  
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**Partial modeling for plasma assisted combustion – Turbine combustor application** BORIS POTAPKIN, MAXIM DEMINSKY, MARINA STRELKOVA, IRINA CHERNYSHEVA, IGOR KOCHETOV, Kintech Lab, Moscow, Russia, SEYED SADDOUGHI, JOHN T. HERBON, TIMOTHY SOMMERER, GE Global Research, Niskayuna, US — Modern gas turbine combustors have to meet increasingly stringent emissions requirements at enlarged operability at conditions of lean-premixed natural gas combustors. This work is dedicated to analysis of possible plasma effect on natural gas combustion gas turbine operation via partial modeling approach. It was shown that plasma effect has potential to enhance the stability of premixed natural gas combustion by widening the lean-blowout limit and enabling operation at lower flame temperatures thus achieving lower emissions and higher turndown capability.

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