Autor(en) des Beitrags:

Titel des Beitrags:
Impact of Temperature and Fuel-N-Content on Fuel-Staged Combustion with Coal Pyrolysis Gas

Abstract:
At an experimental facility of the Stuttgart University, the process of fuel splitting and staging is investigated with a view to lower NOx emissions. Raw coal is introduced into either an electrically heated, entrained flow reactor or a fluidized bed reactor where it is split into pyrolysis gas and residual char. In a following staged combustion, the remaining char or raw coal is used as primary fuel and the pyrolysis gas as reburn fuel. The test facility allows a systematic study to evaluate the effect of different parameters on NOx reduction independently of each other. Pyrolysis experiments, combustion studies, and calculations have been performed to explain the effective NOx reduction with coal pyrolysis gas. To compare the results and show the advantage of this process, investigations with fuel staging were carried out. With gaseous reburn fuels and residence times higher than 1.5 s, minimum NOx emissions below 200 mg/m(3) at 6

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