Abstract:
In order to check synergetic effect co-combustion experiments of hard coal with four kinds of straw, especially selected for their different alkali metals content, were carried out in a Circulating Fluidized Bed (CFB) reactor at Delft University of Technology. The reactor operated at temperature level of 850 degrees C. The influence of the operating conditions and fuel composition on the release of the alkali compounds to the gas phase was investigated. The amount of the alkali compounds in the flue gases was measured with Excimer Laser Induced Fluorescence (ELIF) technique. Together with alkali measuring the SO2 emissions were monitored. The results indicate that gaseous alkalis show dependence on fuel composition according to varying K, Na content in the fuel. The co-combustion experiments indicate that the concentrations of gaseous alkalis were lowered. In general SO2 emissions for pure coal combustion were low because of the low sulfur content in the coal. During the co-combustion the values were further lowered.
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