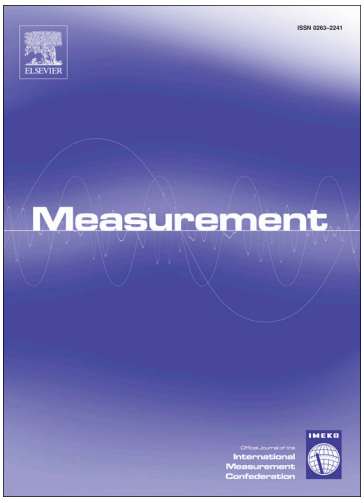

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Abstract

Liquid injection into fluidized bed reactors has several industrial applications, such as Fluid Catalytic Cracking, Gas Phase Polyethylene production, and Fluid Coking. High quality liquid distribution is essential to maximize the yield of desirable products, and minimize agglomeration. A new method was developed to measure the rate at which liquid is released from agglomerates formed as a result of liquid injection into a fluidized bed. This method is suitable for testing of industrial-scale spray nozzles, with liquid flowrates higher than 2 kg/s in fluidized beds containing several tonnes of solids. Liquid distribution can be monitored by measuring the conductance of the fluidized bed with flat electrodes located on the walls of the fluidized bed column.

Key words: Fluidized bed, Fluid Coking, spray nozzle, spray nozzle erosion, agglomeration, jet expansion, conductance electrodes

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