

Process analysis of CO₂ capture processes using dry sorbents

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In decades, various processes have been proposed to capture CO₂ emitted from coal-fire power plant. Among such processes, processes using dry sorbents is one of promising alternative in that they have no water in comparison with amine scrubbing process. Although process scheme for that processes using solid sorbents isn't surely determined still, circulating fluidized bed reactors can be used for them because of advantage to handle solids effectively. On the assumption that inter connected circulating fluidized bed reactors are used as absorber and regenerator of process using dry sorbent, process model for simulation is constructed. And then, process analysis according to change of operating variables of circulating fluidized beds is conducted in here. Also, to select main parameters, sensitive analysis on various parameters is included, too. Finally, assuming several possible reaction rate of absorbent, process analysis on their performance is implemented in this poster.