

### Modeling of fast fluidized bed using dry absorbent for CO<sub>2</sub> capture

김대욱, 김기웅, 이광순<sup>1,\*</sup>  
서강대학교; <sup>1</sup>서강대  
(kslee@sogang.ac.kr\*)

The capture of CO<sub>2</sub> emitted from fossil fuel is globally hot issue, and a lot of concepts for CO<sub>2</sub> capture have been studied by many research groups. Among the possible options, 3-stage process using dry absorbent is one of them. The process are composed of 3-stage of inner-connected dual fast fluidized bed operating different temperature range. To predict performance of the process, we have proceeded simulation of the process. In fast fluidized bed, solids are mixed in bed. At the same time solids are entrained by gas stream. As solids are carried upwardly by gas, they necessarily have somewhat distribution on axial direction of bed. Unlike case of bubbling fluidized bed, the assumption that solids in bed act like ideal CSTR is not reasonable. To overcome such problem, we simulated assuming that solids act like ideal CSTR partly in each element and gas phase is considered as PFR.