

Dynamic simulation of a post-combustion CO₂ capture plant using monoethanolamine solution

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Capture of carbon dioxide (CO₂) from fossil fuel power plant is drawing increasing interest as a potential method for the control of greenhouse gas emissions. Post-combustion CO₂ capture from fossil fuel power plants using monoethanolamine (MEA) is one of the most promising technology for the removal of CO₂ gas. However, despite the advances in this field, only a few studies have presented a dynamic process model and controllability analysis of the post-combustion CO₂ capture process for fossil fuel power plants. In this paper, steady-state simulation of post-combustion CO₂ capture using MEA process was performed and dynamic simulation covering several selected disturbances that may occur during the operation of amine based CO₂ capture plant was performed.