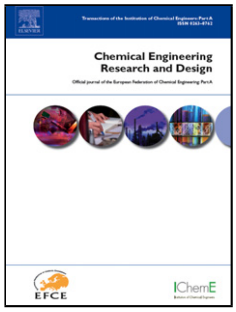

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Dynamic Modeling and Advanced Control of Post-Combustion CO_2 Capture Plants

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Highlights

- Linear and nonlinear MPC strategies are implemented to CO2 capture processes
- Conventional and lean vapor compression (LVC) configurations are addressed
- Power plant load-following scenario that simulates plant cycling is considered
- Benefits of proposed NLMPC for the LVC configuration are shown

Abstract

In this paper, model predictive control (MPC) strategies are implemented to address different stripper configurations for the CO_2 capture process as part of Supercritical Pulverized Coal-fired (SCPC) power plants. Dynamic models of the conventional and lean vapor compression (LVC) CO_2 capture configurations are introduced. Linear and nonlinear MPC strategies are implemented to the CO_2 capture processes for a power plant load-following scenario that simulates power plant