

Large-Scale DAE-Constrained Optimization Applied to a Modified Spouted Bed Reactor for Ethylene Production from Methane

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Highlights

- A spouted bed reactor was proposed to enhance the performance of the oxidative coupling of methane.
- An optimization strategy was developed to demonstrate the theoretical feasibility of the proposed reactor.
- The use a porous membrane as a draft tube in a spouted bed improves the heat and mass transfer.

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