**عنوان مقاله:**

Real time optimization of methanol Reactor using evolutionary algorithm

**محل انتشار:**

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**خلاصه مقاله:**

In this article real time optimization RTO of industrial shell and tube methanol reactor is presented. Mathematical modeling of reactor is used as case study and inlet concentrations such as $CO, CO_2, H_2, H_2O$ and methanol are used as disturbance. Outlet concentration is maximized by adjusting shell temperature as manipulating variable . differential evolution DE is used for optimization. the optimizer initiates every hour and determines the optimal set point. reduction of catalyst activity is updated as model parameter every 24 hours. by using the proposed algorithm and control loop, production of methanol is increased up to 15%.

**کلمات کلیدی:**

real time optimization RTO, defferential evolution, methanol reactor.

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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