عنوان مقاله:

Optimal Grade Transition of a Gas Phase Ethylene Polymerization Reactor

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Leily Mohammadi - *Chemical and Petroleum Engineering Department, Sharif University of Technology,Tehran, Iran*

Mohammad Shahrokhi - *Chemical and Petroleum Engineering Department, Sharif University of Technology,Tehran, Iran*

خلاصه مقاله:

Decreasing the amount of off-spec product during the grade transition in polymerization processes is the main objective. In this study, optimization of grade transition operation for a gas phase ethylene polymerization reactor is considered. Using the copolymerization kinetics and conservation laws, the dynamic behavior of the reactor has been modeled. Optimal trajectories of variables are determined by applying control vector parameterization method and using the system dynamic model. By applying the optimal trajectories, the amount of off-spec product is decreased noticeably. The GPC (Generalized predictive controller) and PI (proportional Integral) controllers are used to track the .determined optimal trajectories. Simulation results indicate that GPC has a better performance

کلمات کلیدی:

Polyethylene Grades, Optimization, Control Vector Parameterization, Grade Transition, Generalized Predictive Control