

عنوان مقاله:

A comparison of multi- stages spherical and conventional tubular methanol synthesis reactors in presence of catalyst deactivation

محل انتشار:

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نویسندگان:

A Abbasloo - Chemical Engineering Department, Shiraz University

J Sayyad Amin - Chemical Engineering Department, Shiraz University

M Rahimpou - Chemical Engineering Department, Shiraz University

خلاصه مقاله:

Dynamic simulation of a spherical type industrial methanol reactor in different stage has been studied in the presence of long term catalyst deactivation. Equations of model were solved by orthogonal collocation method. In comparison with tubular reactor, spherical reactors have low material cost, low pressure drop, high quality and quantity of production and low average decreasing in activity. The performance of the spherical multi- stage reactors was compared with tubular reactor with respect to operating conditions in methanol plant. Results show that at same conditions twostage spherical reactor was better than one and three- stage reactors and tubular reactor and also average decreasing of activation in two and three- stage spherical reactor is less than tubular and one- stage spherical reactors. Increasing number of spherical reactor leads to increasing quality of production and decreasing .quantity of production

کلمات کلیدی:

methanol synthesis, spherical reactor, dynamic simulation, catalyst deactivation, orthogonal collocation method

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