عنوان مقاله:

CFD simulation of the wind flow around two buildings with k and Reynolds stress models to evaluate their effect on removing particle pollutants

محل انتشار:

هفتمین کنفرانس ملی کاربرد CFD در صنایع شیمیایی و نفت (سال: 1395)

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نویسندگان:

Mohammad Saleh Najafinezhad - *M.Sc. student, Department of Chemical Engineering, Faculty of Engineering, Shahid Bahonar University of Kerman*

Sahar Razmjooeie - *M.Sc. student, Department of Chemical Engineering, Faculty of Engineering, Shahid Bahonar University of Kerman*

Ali Mohebbi - *Professor of Chemical Engineering, Department of Chemical Engineering, Faculty of Engineering, Shahid Bahonar University of Kerman*

خلاصه مقاله:

In recent past years scientists have carried out different simulations around buildings. In the environmental view it is important to know the removing of polluted particles by buildings. In this study a CFD simulation for the wind flow around two urban buildings were performed by three different turbulent models, namely RNG k-, Realizable k- and Reynolds stress. This was done to find the best turbulent model. The results show that the Realizable k- turbulent model has more adaptability with experimental data than the other models .The reattachment length for three models for the area between two buildings and after the second building was calculated. Finally, a wind flow containing calcium carbonate particles was modeled using Realizable k- model and the amount of removed particles by the walls of two buildings was calculated.

کلمات کلیدی:

Computational fluid dynamics, Turbulent model, Particle, Building