عنوان مقاله:

Evaluation of the turbulence sub-grid scale models effects on the accuracy of the blast wave simulation in confined spaces

محل انتشار:

اولین کنفرانس ملی تحقیقات بنیادین در مهندسی مکانیک (سال: 1397)

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خلاصه مقاله:

Explosion Blast wave analysis is one of the most important subjects for risk estimation in industrial plants and also urban environments because of the terrorist attacks. The blast wave in confined spaces with obstacles has complex behaviors. As experimental tests are expensive especially in complex geometries, the numerical simulation is the best solution to study the blast wave. In recent years, the computational fluid dynamics (CFD) improves and the new turbulence sub-grid scale models such as wale and kEq are available in the open source software OpenFOAM . In this paper, the comparison between three subgrid models for blast wave propagation near an obstacle has investigated. The results show that the kEq sub-grid model in comparison with other models has the ability to simulate more details and has more accuracy in comparison with the experimental results

کلمات کلیدی:

.Explosion, Blast Wave, Computational Fluid Dynamics, Turbulence, Sub-grid Scale Models