ENGINEERING LEVEL COUPLED BLAST FLOW AND MODULE WITH RAPID INPUT SCENE GENERATOR FOR MULTI-BUILDING ENVIRONMENTS

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Abstract

To predict blast damage in a built-up area there is a need to generate the layout and dimensions of buildings, and then assess blast propagation and structural damage. This paper presents a rapid 3d scene generation input capability, linked to an engineering level damage prediction module. This module consists of a coupled blast flowfield and single degree of freedom damage routine, capable of producing good results for a complex multi-building environment at a rate of 2 buildings per second on a PC. Experimental results are provided for comparison purposes.