THE BLAST BOX: EFFICIENT RESEARCH FOR INTERNAL BLAST TRIALS

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The vulnerability of existing warships for the effects of a hit by an Anti Ship Missile is under thorough investigation nowadays accompanied by the study of less vulnerable designs. One of the major interests in ship vulnerability is the effect of blast emanating from the internally detonating warhead. The violent forces from such an explosion are able to deform and rupture primary structural elements. To analyze and verify new structural concepts, in order to constrain the damage as much as possible, controlled trials on decommissioned ships, such as the Dutch "Roofdier" frigate tests, are still necessary. This is caused by the complicated geometry of the ship and its components on the one hand and due to the complex physical damage mechanisms on the other hand.

The analyses in this paper have to ensue recommendations for the planned blast box experiments which allow adequate translation to real ship structures.