Master's Dissertation at the Div. of Structural Mechanics

SIMULATIONS OF THE RESPONSE OF CONCRETE STRUCTURES SUBJECTED TO AIR BLASTS

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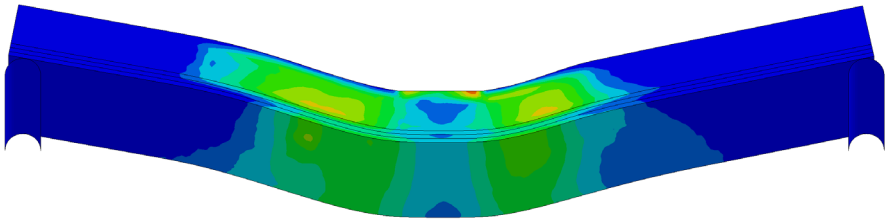
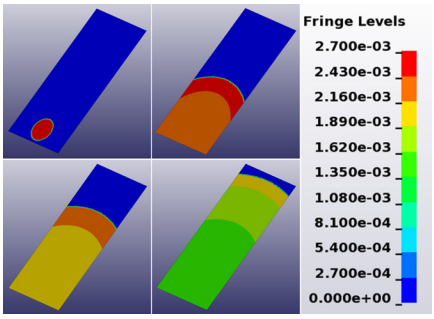


Description

The interaction between an air blast and a concrete structure can be studied numerically using the hydro code LS-Dyna. There is an interest at FOI to investigate the possibility to numerically study the behavior of large structures, e.g. multi-story buildings subjected to the air blast from an explosive device. This proposal includes a literature survey of the experimental and numerical work done in this area of research and a numerical study of the response of building blocks, like walls and/or columns, subjected to air blasts in order to arrive at a numerically efficient model of a simplified multi-story building. The material model for the concrete will be calibrated using existing experimental results on simple building blocks, e.g. concrete slabs.



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