

## FIRST RESULTS WITH THE MODEL-BLAST SIMULATOR OF REITERALPE

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The large blast simulator at Reiteralpe Proving Ground ( $A = 76 \text{ m}^2$ ,  $L = 110 \text{ m}$ ) driven by 144 generators, has been rebuilt in the Ernst Mach Institut (EMI) as steel model on a small scale (1 : 41.7), in order to investigate basic problems.

The model simulator is driven by 7 generators, each corresponding to 21 generators of the Reiteralpe, and realizes loading pressures up to 200 bar and blast wave up to 1.4 bar peak overpressure. The generators are shut by diaphragms and started by exploding wires. In the model tunnel 50 measuring points are inserted for side-on pressure measurements. With a 18 channel instrumentation device it is possible to record pressure time histories at distinct points in the tunnel wall.

There are no problem to insert generator tubes of varying lengths and numbers simulating different generator volumes and types.

In future, it will be possible to increase the simulator length and to insert models in it. The model simulator also allows to investigate several types of rarefaction wave eliminators.

The EMI model simulator will be demonstrated by photographs and graphs. The experimental results are discussed by pressure time histories measured at the bottom, roof and side wall of the model simulator. Thus, dependent on the distance downstream of the generators and its loading pressure, the development of the pressure profile, the uniformity of the shock front over the total cross section area, the shock strength and positive phase duration, the arrival of the upstream running rarefaction wave, and the attenuation of pressure spikes are shown. Besides, some investigations with a static rarefaction wave eliminator are presented. The results are compared with those of the large Reiteralpe blast simulator.