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Experimental simulation of blast loading on structural elements using rarefaction waves – theoretical analysis

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Highlights

- **A theoretical model is developed for producing blast loading by rarefaction waves**
- **Sudden timed overpressure release yields differential loading on a test specimen**
- **The model simulates blast load experiments and analyzes the blast characteristics**
- **The model demonstrates possible blast load shapes including negative phase loading**
- **The model allows an analytical analysis of the basic parameters of the blast pulses**
- **Excellent agreement is achieved between calculated and measured experimental pulses**

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