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Numerical simulation of deflagration-to-detonation transition in large confined volumes

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- CFD simulations of hydrogen-air explosions in large confined volumes are presented.
- Adaptive mesh refinement is a key technique to minimize computational costs.
- The model is successfully validated by large-scale experiments in the RUT facility.
- Safety-relevant lean mixtures close to the lower detonation limit are considered.
- The influence of mixture inhomogeneity on flame acceleration and DDT is discussed.

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