

## Seminarvorträge Sommersemester 2025

Stand: 29. Jul 2025

Thursday, 17th July, 13:30, MW 1701

**Osama Ahmed**, Imperial College London

*Solving nonlinear differential equations with quantum computers*

Tuesday, 19th August 13:30, MW 1701

Dr. **Chuhan WANG** (Berlin/Beijing)

*Onset of global instability in a premixed annular V-flame: linear and nonlinear analysis*

The onset of global instability in a premixed non-swirling annular V-flame is characterized by the transition from a stable, steady flame to an oscillatory state, often exhibiting limit-cycle or quasi-chaotic oscillations. Both linear analysis with the reacting flow equations and nonlinear Monte Carlo simulations show that the involved axisymmetric instability is driven by a non-local feedback mechanism between the flame tip and nozzle outlet. The instability can be triggered by perturbations of sufficient amplitude, even when the flame remains linearly stable. Linear analysis of the subcritical time-averaged limit-cycle state produces eigenvalues that fail to match the nonlinear periodic oscillation frequencies, contrasting with bluff-body-anchored flames and swirling V-flames where a recirculation bubble enables local instability feedback.