Namelist "Chemical_Reactions_Features"

This data setup is only used in the full version of sunfluidh for the simulation of reactive gas flows under low-Mach number hypothesis.
It provides some information on the nature of the chemical reactions. The kinetic mechanisms must be described in specific files planned to be directly compiled with the code (see ...).
This data setup is recommanded for expert users only.

Chemical_Reactions_Enabled

- Type : boolean value
- This data allows the code to access (or not) to any specific procedures used for calculating the the chemical part of the reactive flow simulations.

Number_of_Reactions

- Type : integer value
- Number of chemical reactions

Start_Time

- Type : real value
- Time from which chemical reaction are activated

Reaction_Rate_Damping_Time

- type : real value
- Time range for which the reaction rates are damped (in order to reduce the stiffness of equations)

Density_Dependency_Enabled

- type : real value
- Specify whether the reaction rates depend on the density

Temperature_Dependency_Enabled

- type : boolean value
- Specify whether the reaction rates depend on the temperature

Heat_Capacity_Dependency_Enabled

- type : boolean value
- Specify whether the time-variation rate of the energy depends on the heat capacity of the species.

Homogeneous_Reactor_Enabled

- type : boolean value
- This option allows the user to test the kinetic mechanism in the case of a homegeneous reactor (without flow consideration)
- In this case, the Navier-stokes equations are not considered.