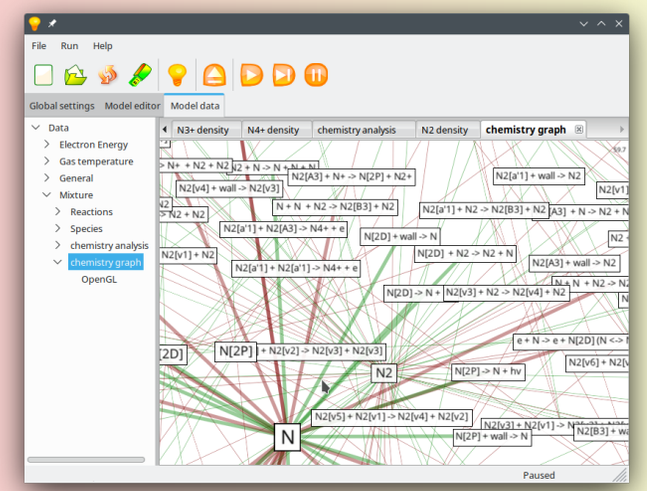
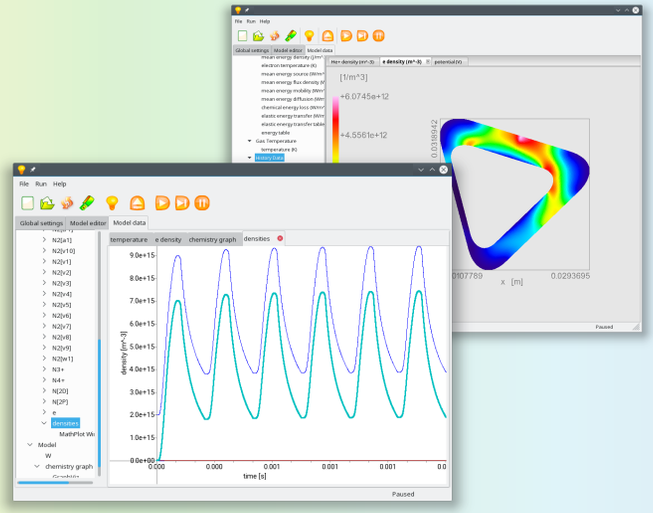
PLASIMO mixture database

PLASIMO has been used to model very complex mixtures, such as CO_2, H_2O-He, H_2-N_2-O_2, H_2-N_2-O_2-C and O_2-$SiCl_4$. Many other mixtures are available in the PLASIMO database.





- Created for modeling of plasmas with various degrees of equilibrium
- Designed as a flexible, user friendly modeling toolbox
- Available for Windows, macOS and Linux/Unix

The Plasma Simulation Software

PLASIMO

Global Model and Complex Chemistries

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Plasma Matters

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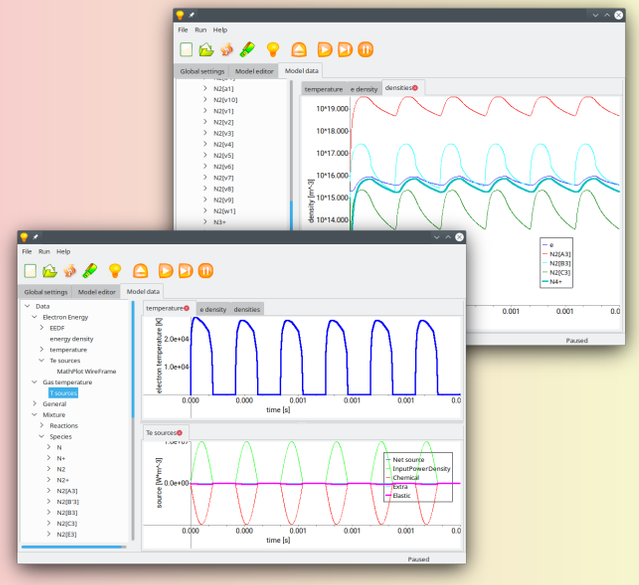
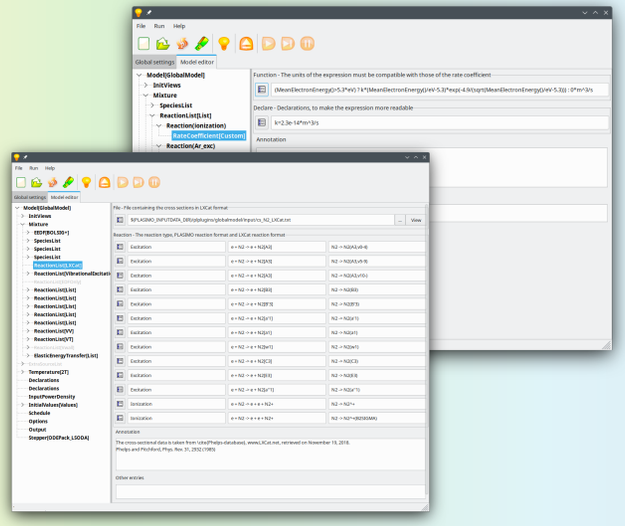
PLASIMO Global Model

- Gas temperature and non-equilibrium electron kinetics
- Built-in Boltzmann solvers: BOLSIG+ and Loki-B
- Dedicated models for two- and single-temperature plasmas
- Quasi-neutral or non-quasi neutral model
- Power density or reduced electric field based model
- Coupling with plasma-surface module
- Initialization from previous run
- Parameterized series of runs



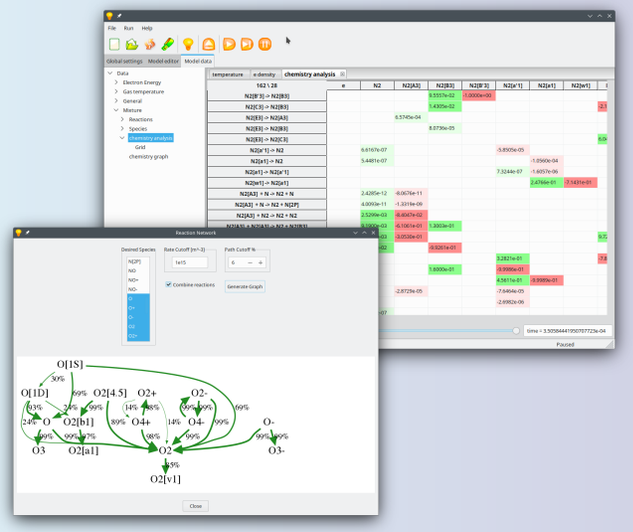
Input data

- User-defined set of species and reactions
- User-defined rate coefficients: constant, lookup table, from cross-section, custom
- Direct use of electron-impact cross-sections from LXCat database (https://lxcat.net)



- Automatic construction of vibrational excitation, V-V and V-T reaction groups using scaling laws
- Convenient construction of series of related reactions from a template
- Easy ways to account for any additional sources or losses, such as wall processes, flow and any custom process

Chemistry analysis and reduction



- Monitor the contribution of each reaction to the production or destruction of every species at run time
- Scroll back in time
- Quick visual feedback in the form of reaction network graph with filtering options
- Create automatically reduced chemistries based on user-specified criteria
- Analyze and reduce chemistries using the built-in Pathway Analysis (PA) tool