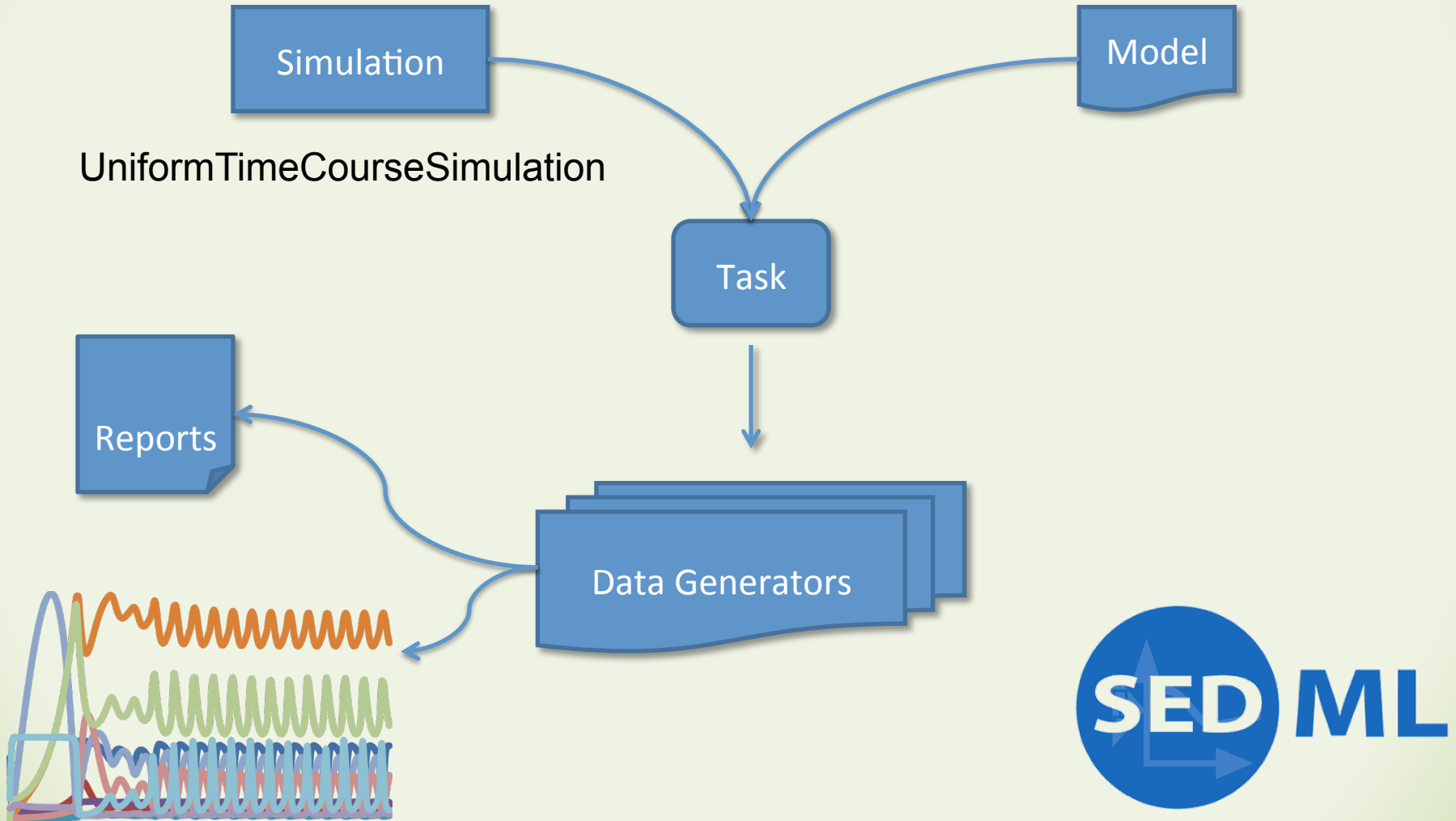




Nested Tasks Proposal for SED-ML

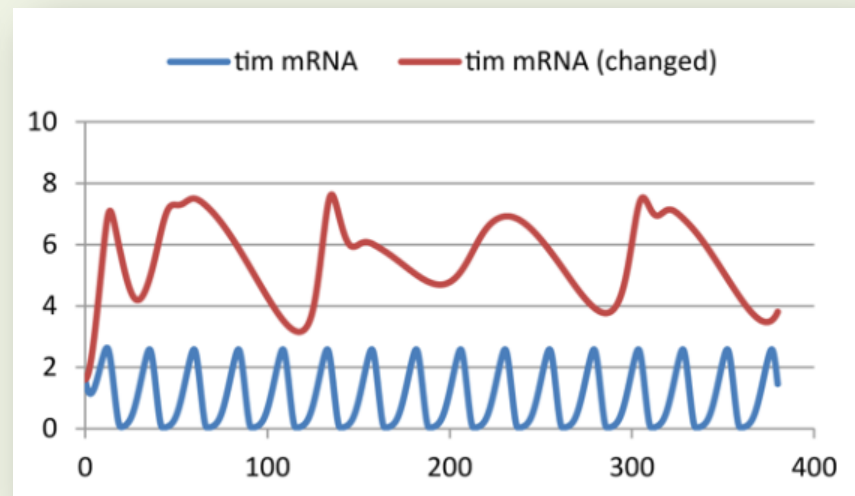
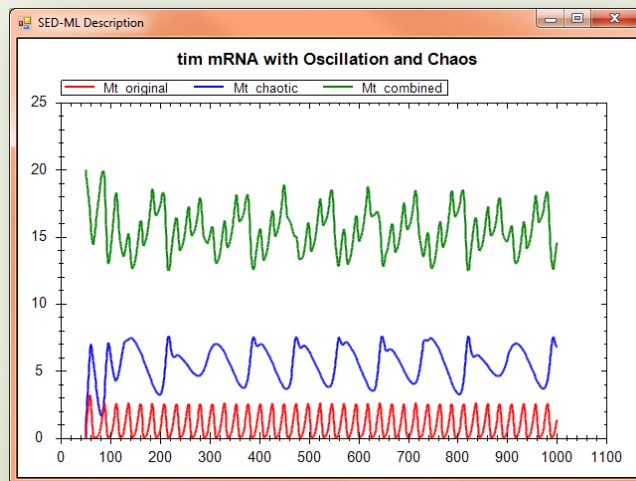
Frank T. Bergmann

The Current State

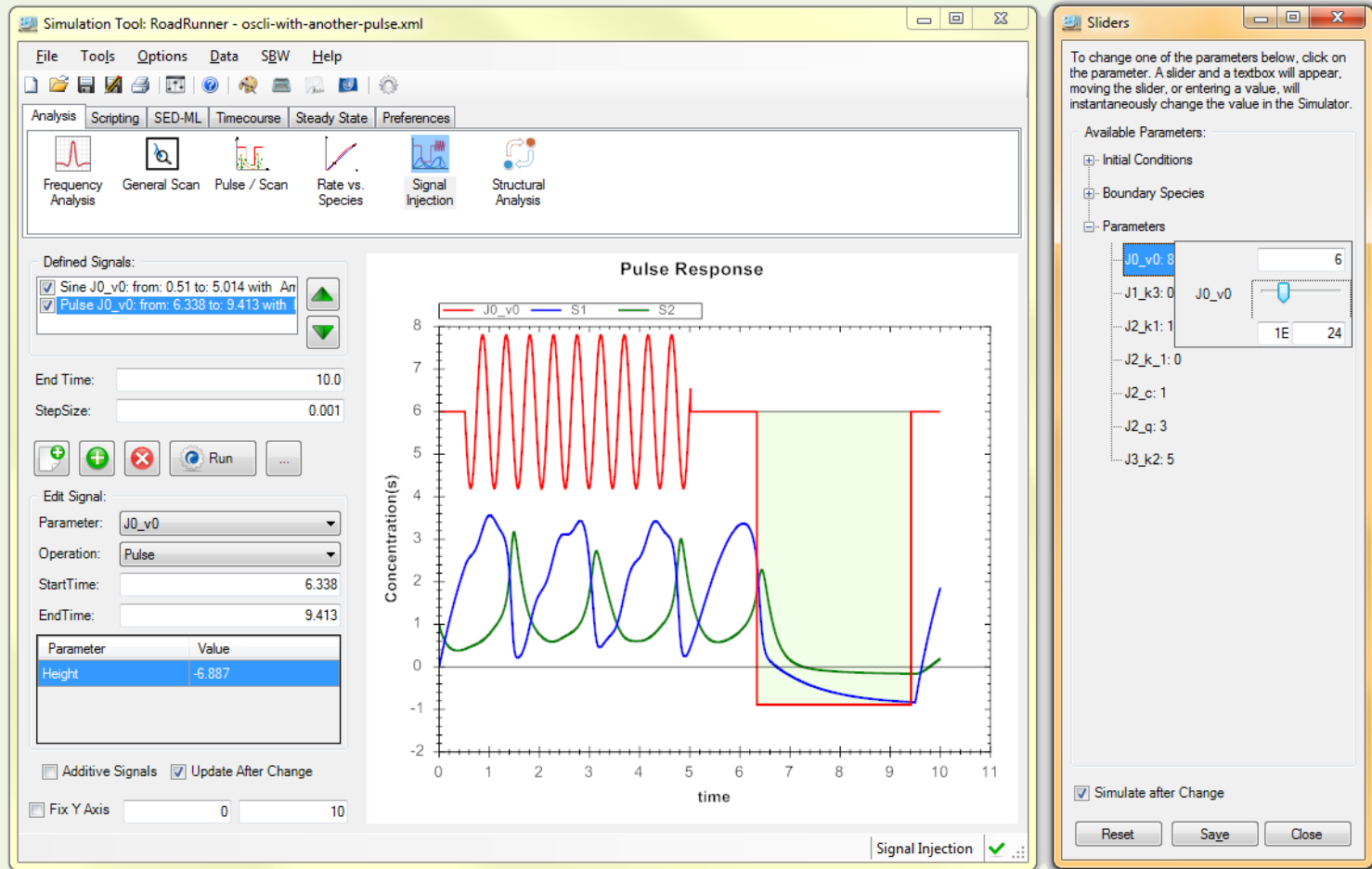


The Current State

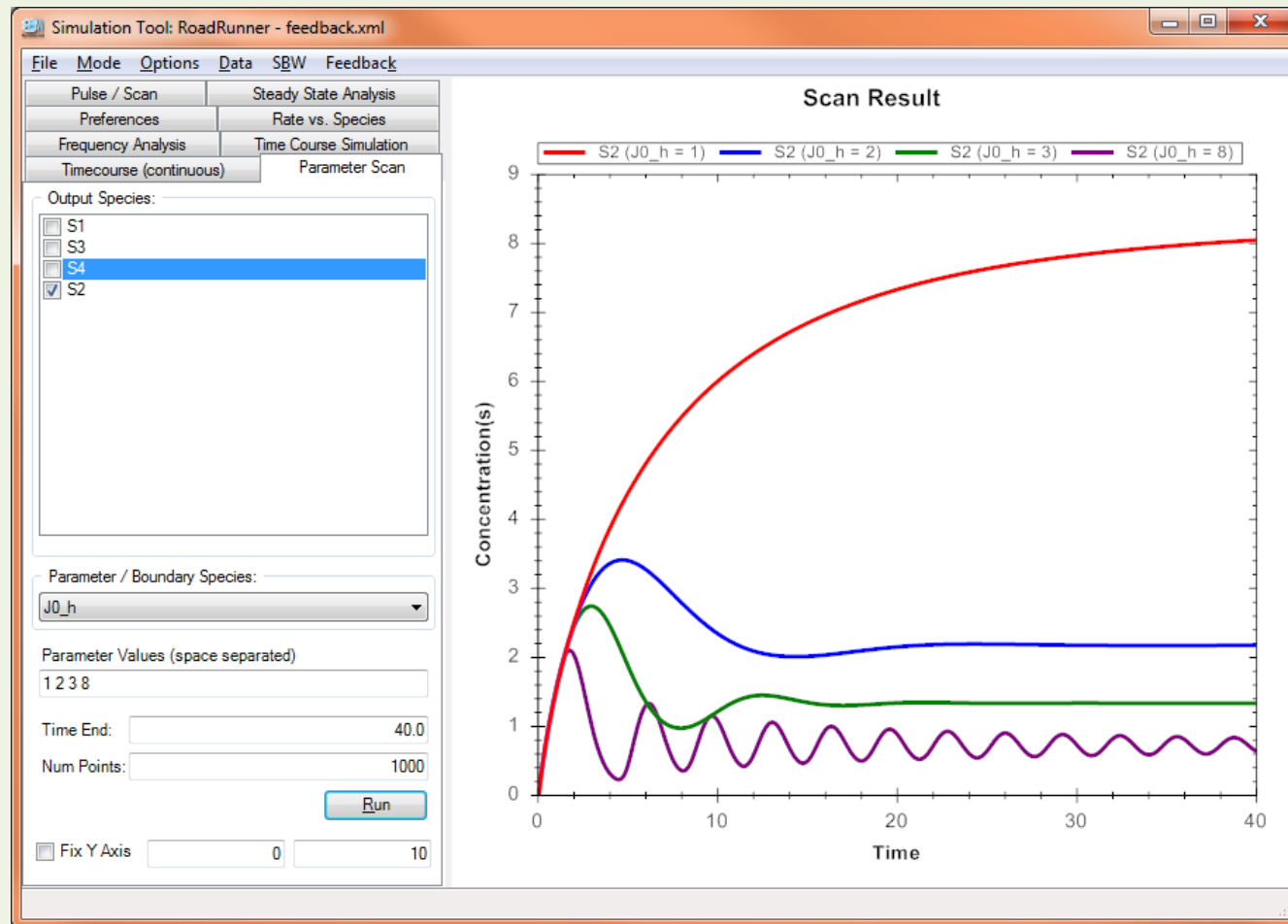
- Carry out multiple time course simulations
- Collect results from these simulations
- Combine results from these simulations
- Report / Graph the results



What it does not cover



Parameter Scans



Motivation

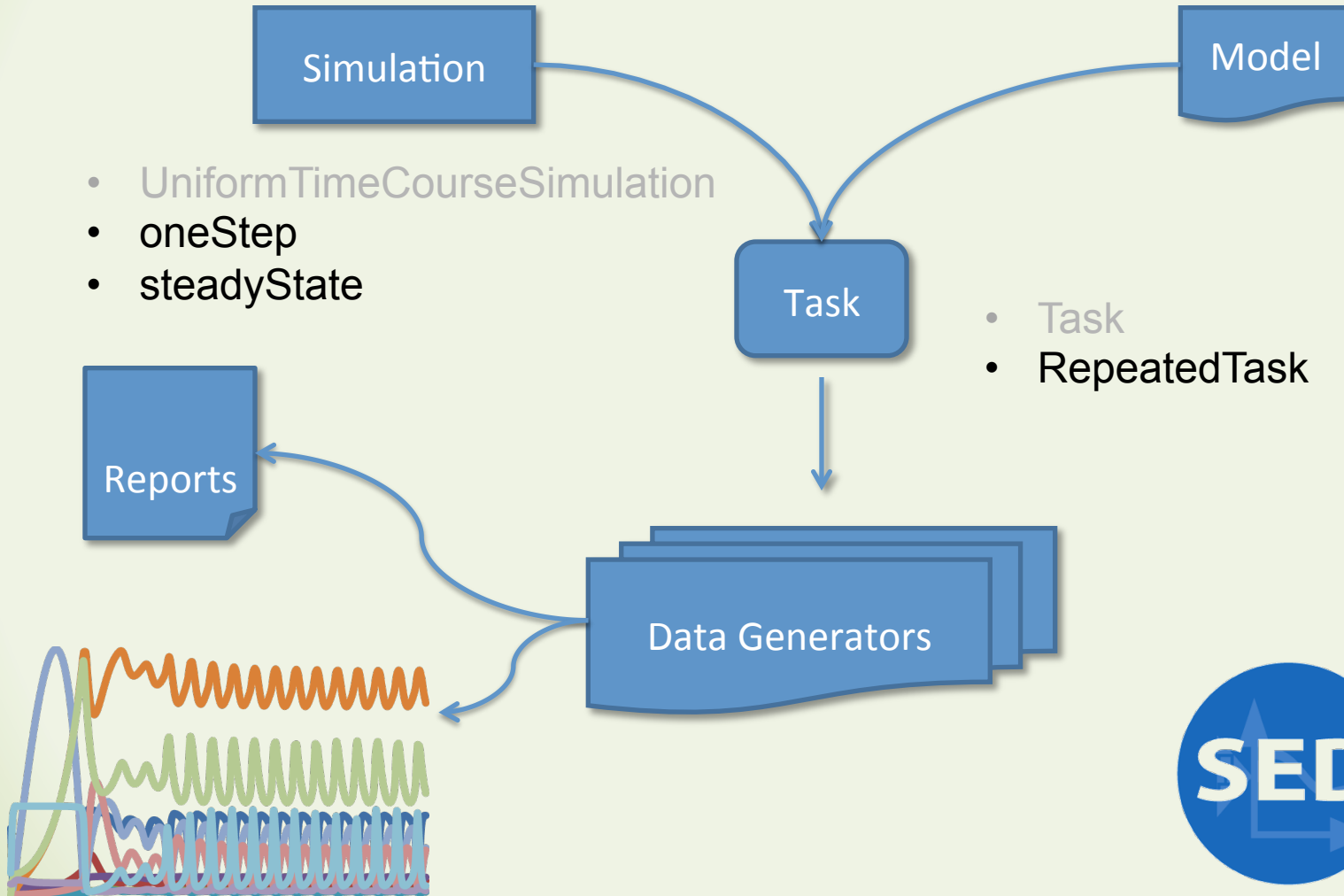
- Of course there are more simulation to be captured. But the extensions ought to happen in an orthogonal way, so that we can cover more of what people want to do, by adding additional:
 - Simulation Classes
 - Task Classes
 - DataGenerator Classes
 - Output Classes

Motivation

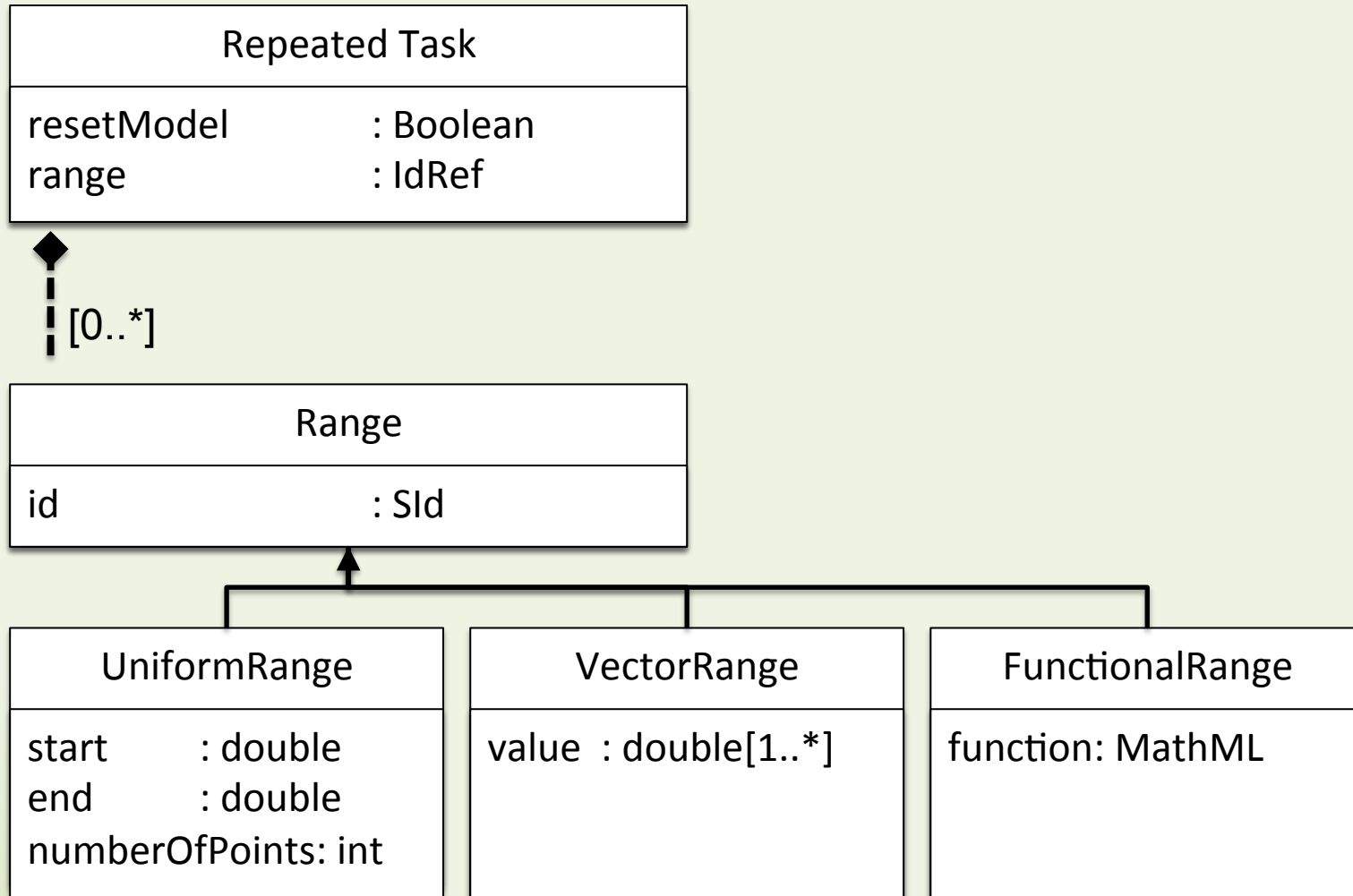
- Expand SED-ML, in a natural, compatible way, that allows to carry out interconnected simulation tasks.
- ➔ Proposal of a new Task Class: The RepeatedTask, that allows multiple simulation tasks to be invoked while changing model variables.

THE PROPOSAL

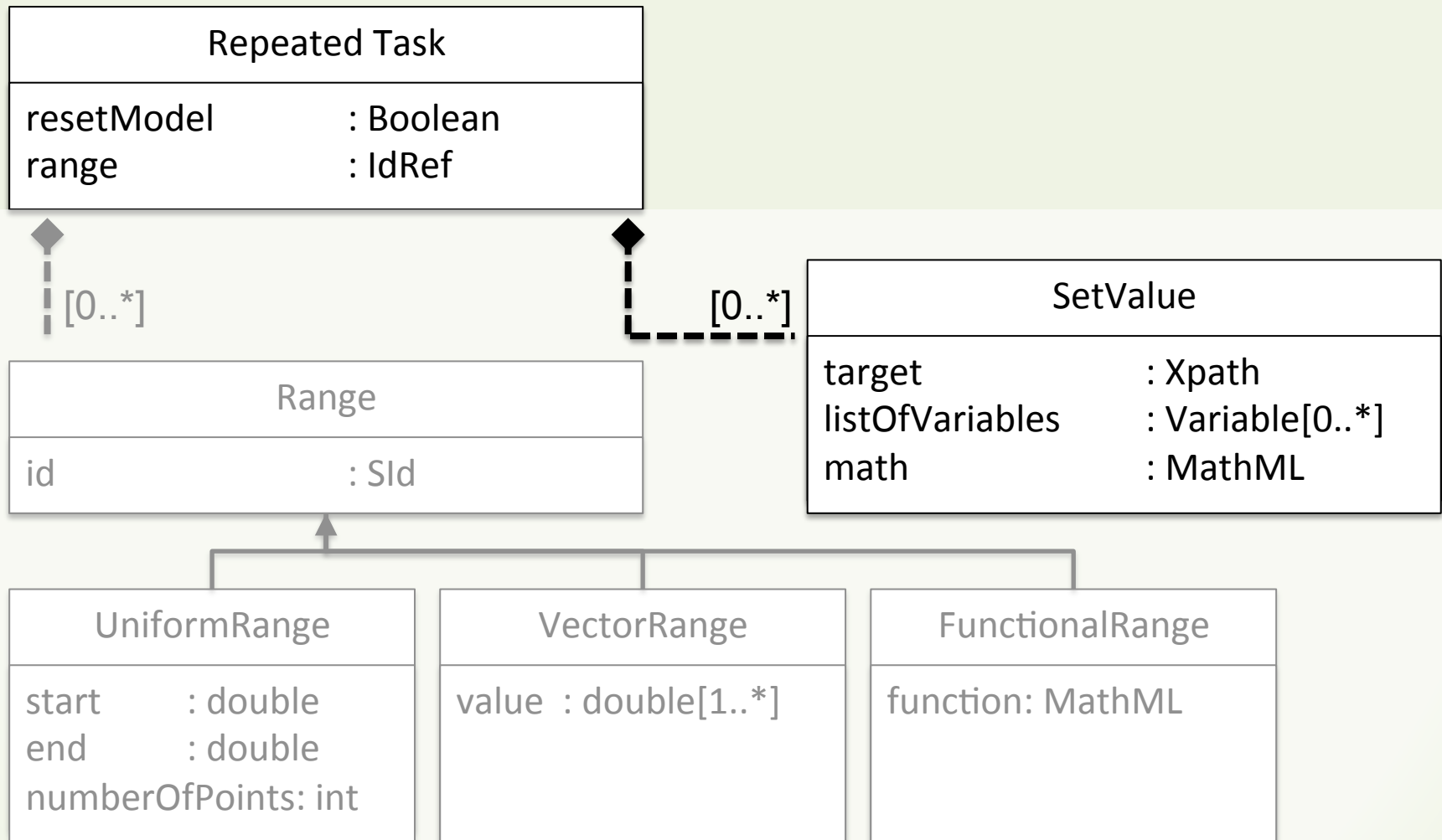
The Proposal



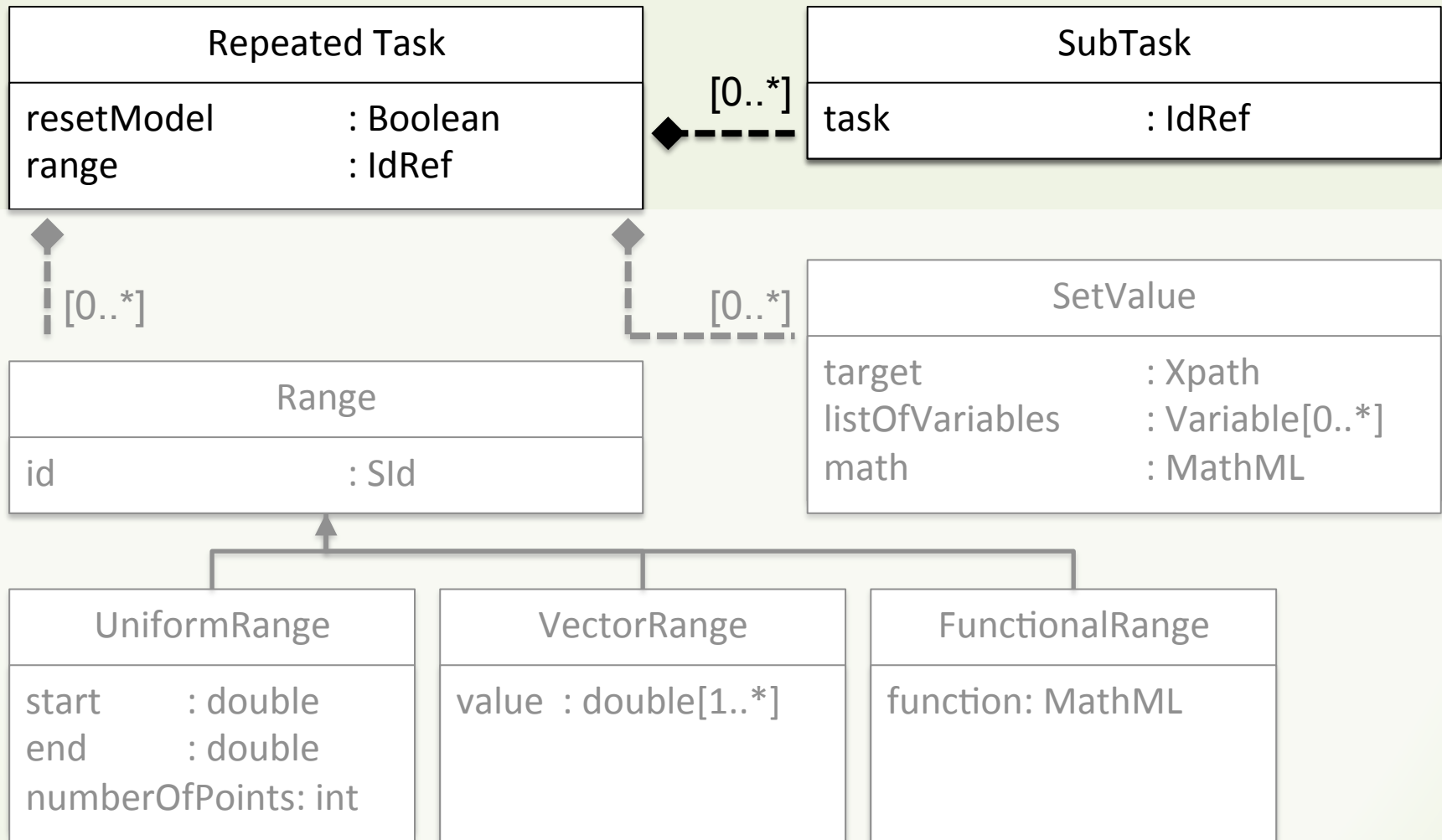
Repeated Task



Repeated Task



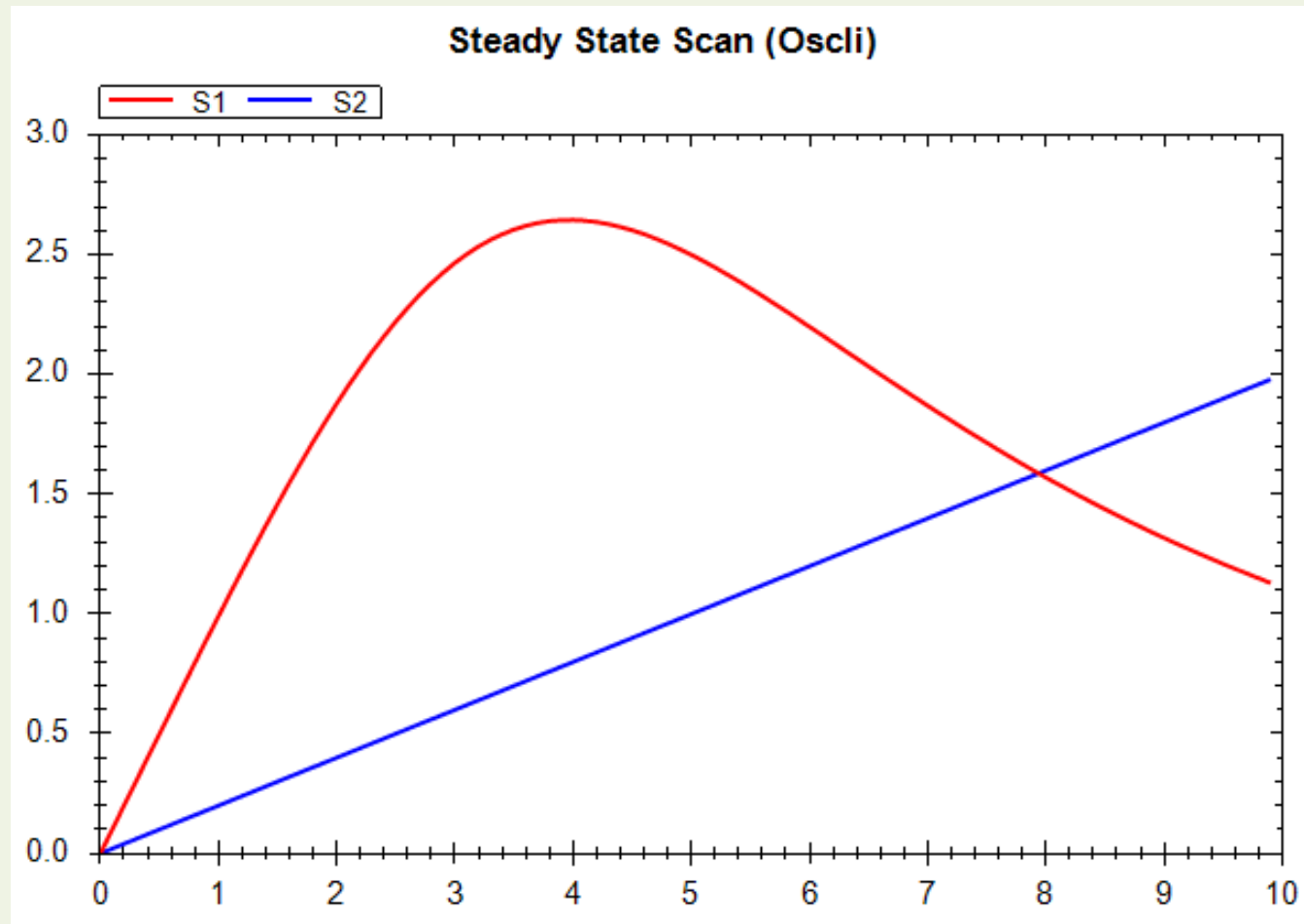
Repeated Task



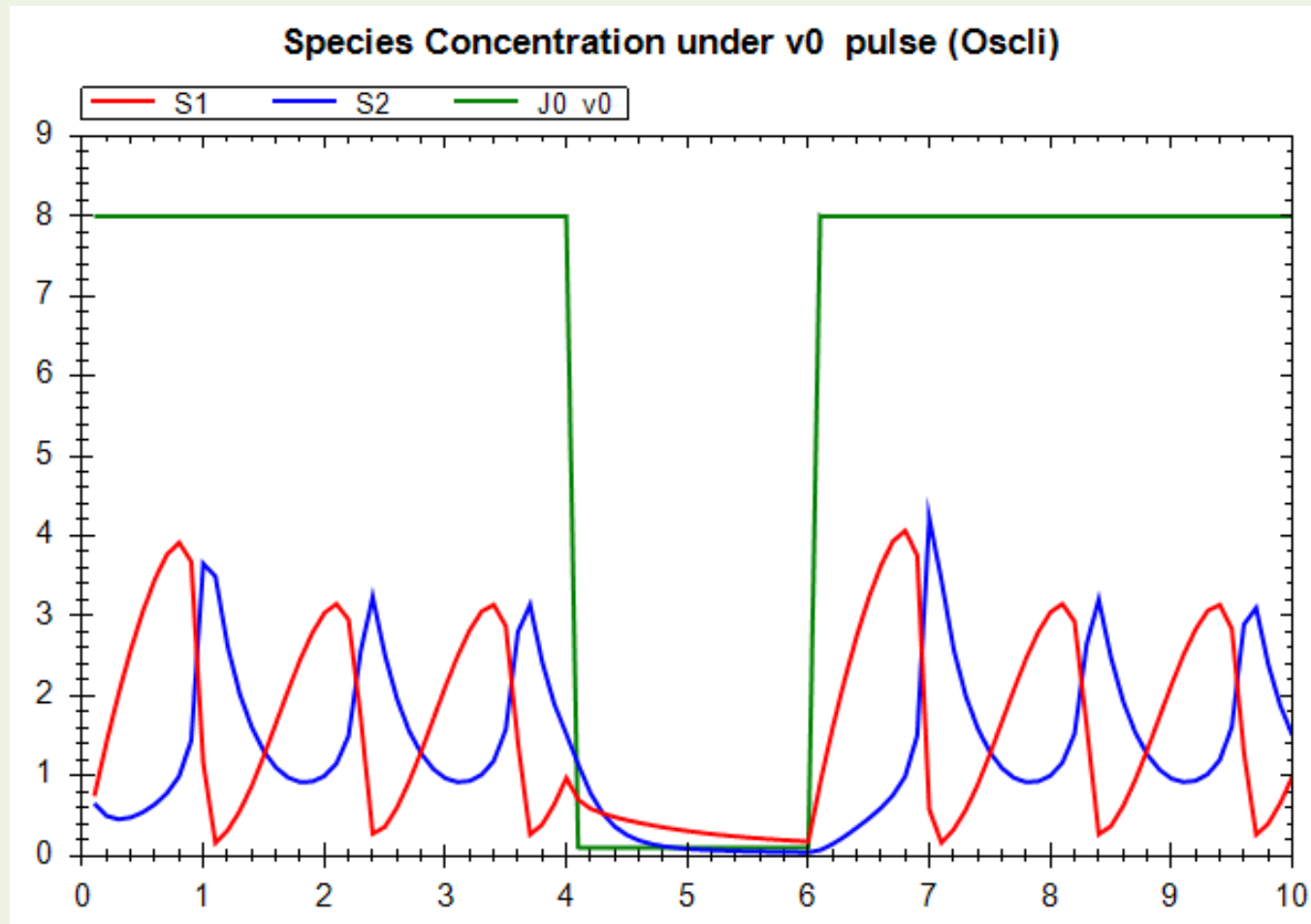
Features

- Carry out simulations,
- continue with other simulations
- Modify model variables during simulation runs

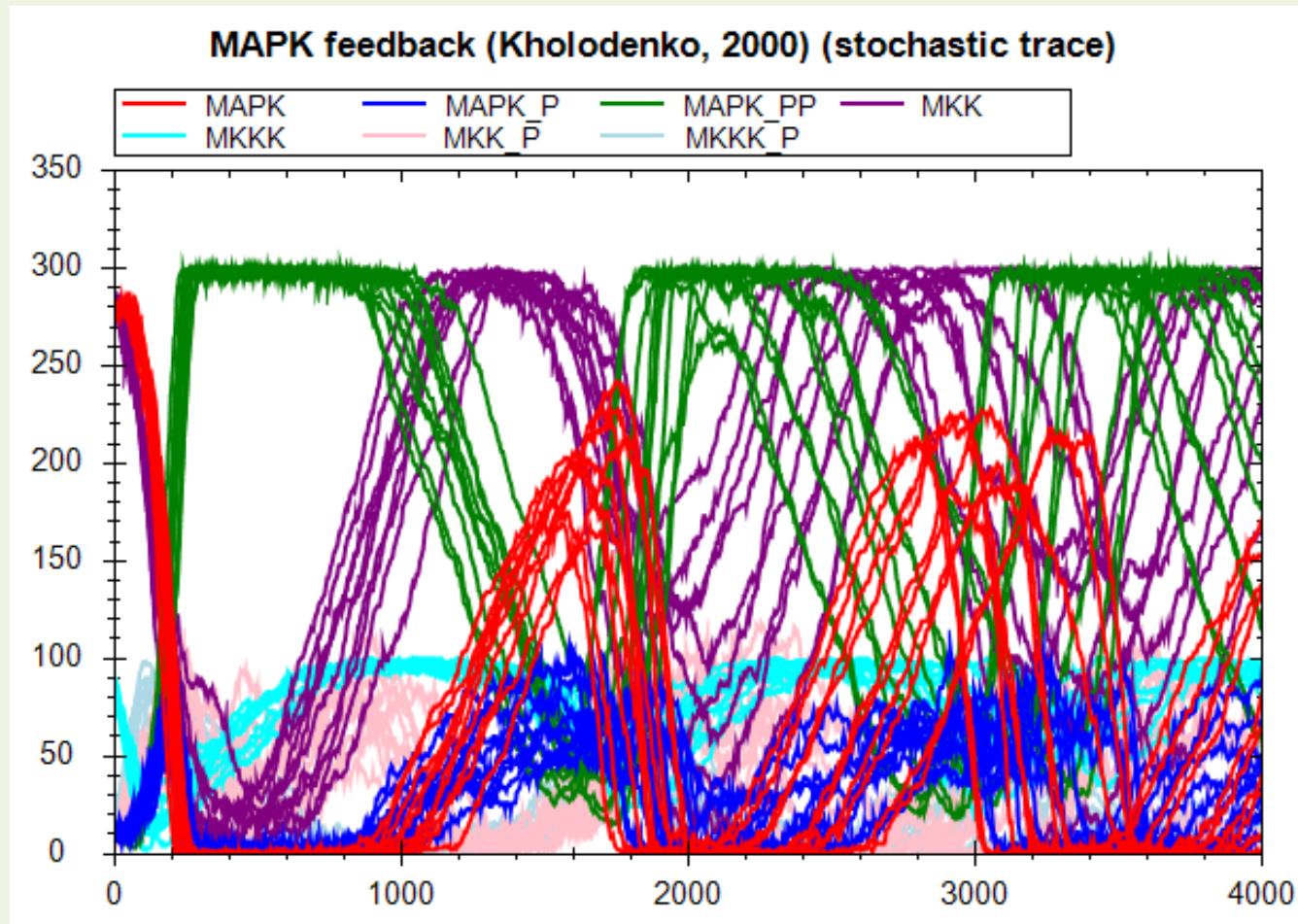
Parameter Scan



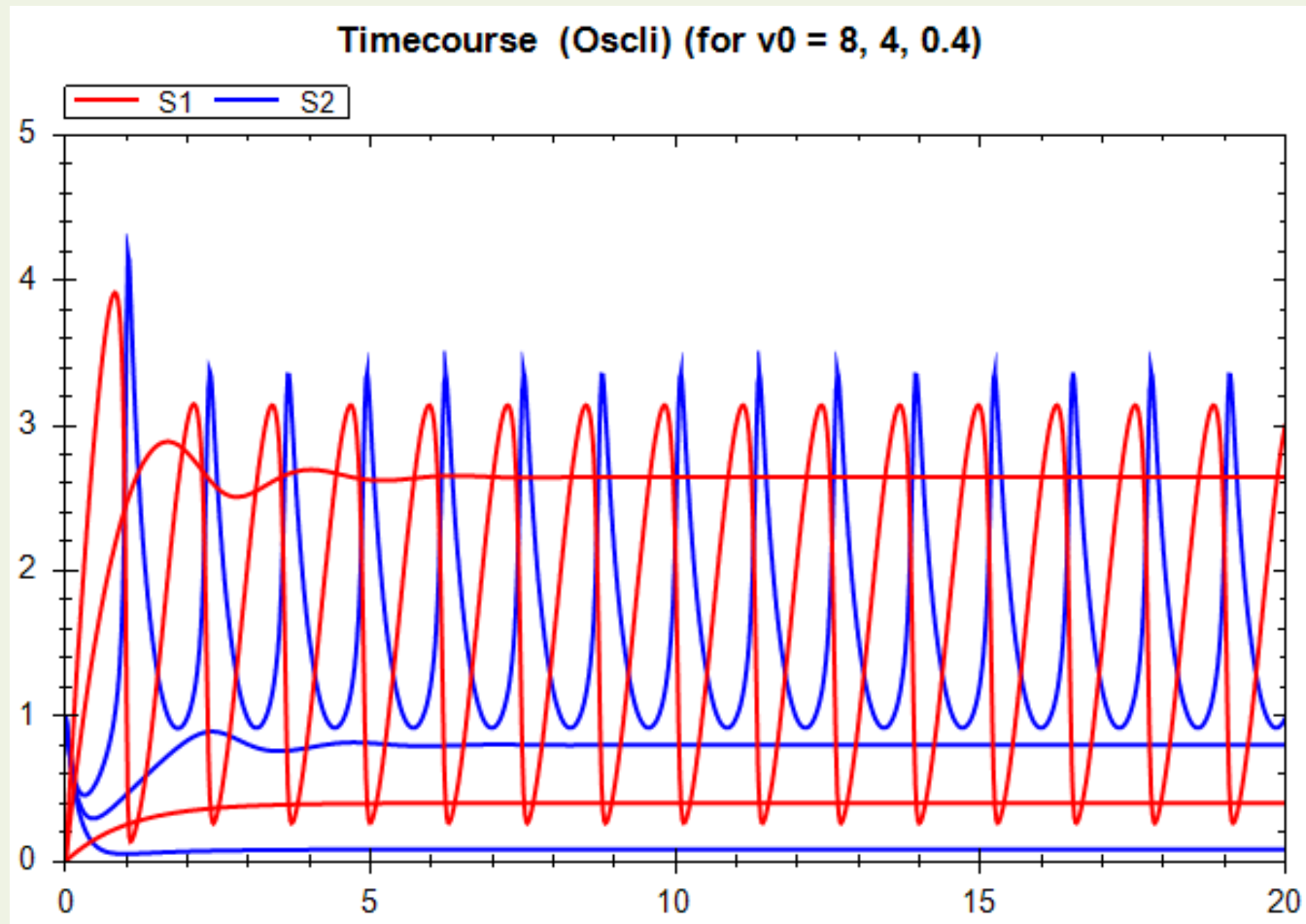
Pulse Experiments



Repeated Stochastic Traces



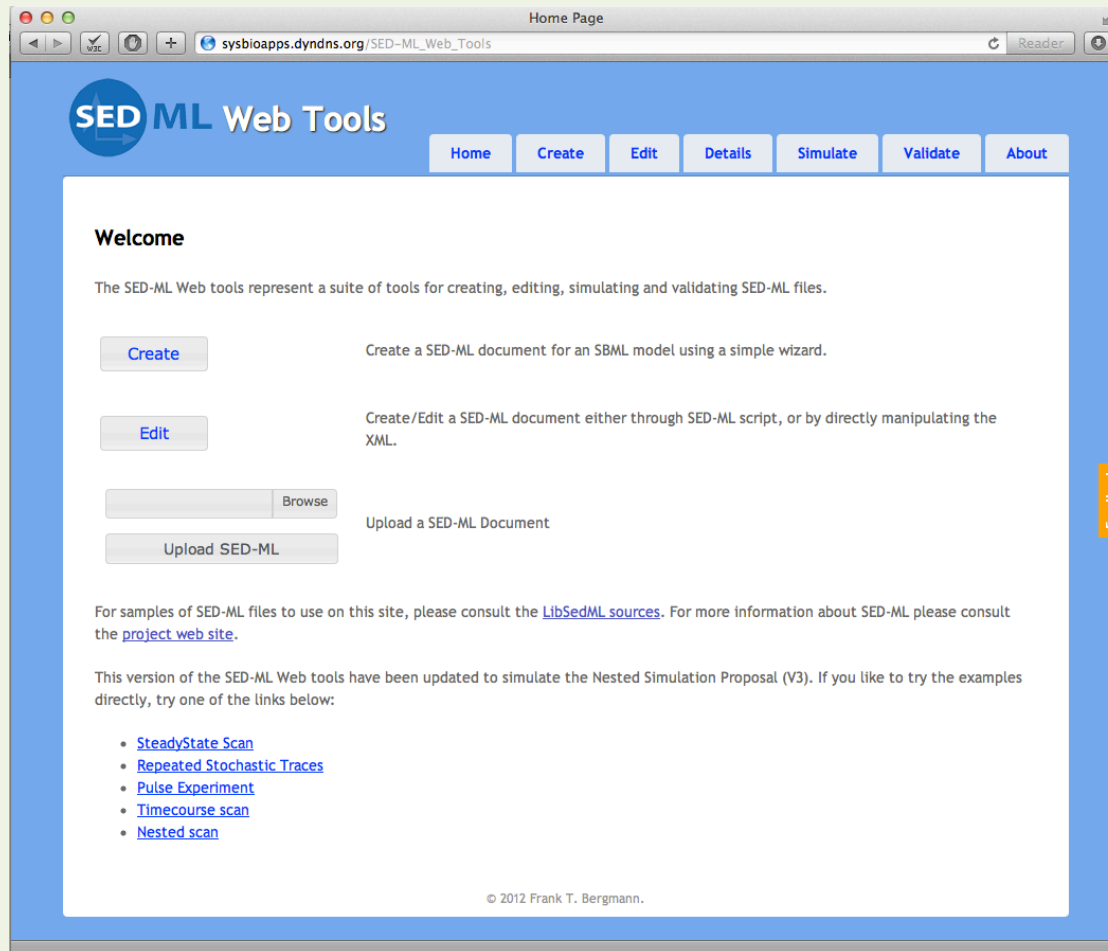
Time Course Parameter Scan



Place For Orthogonal Extensions...

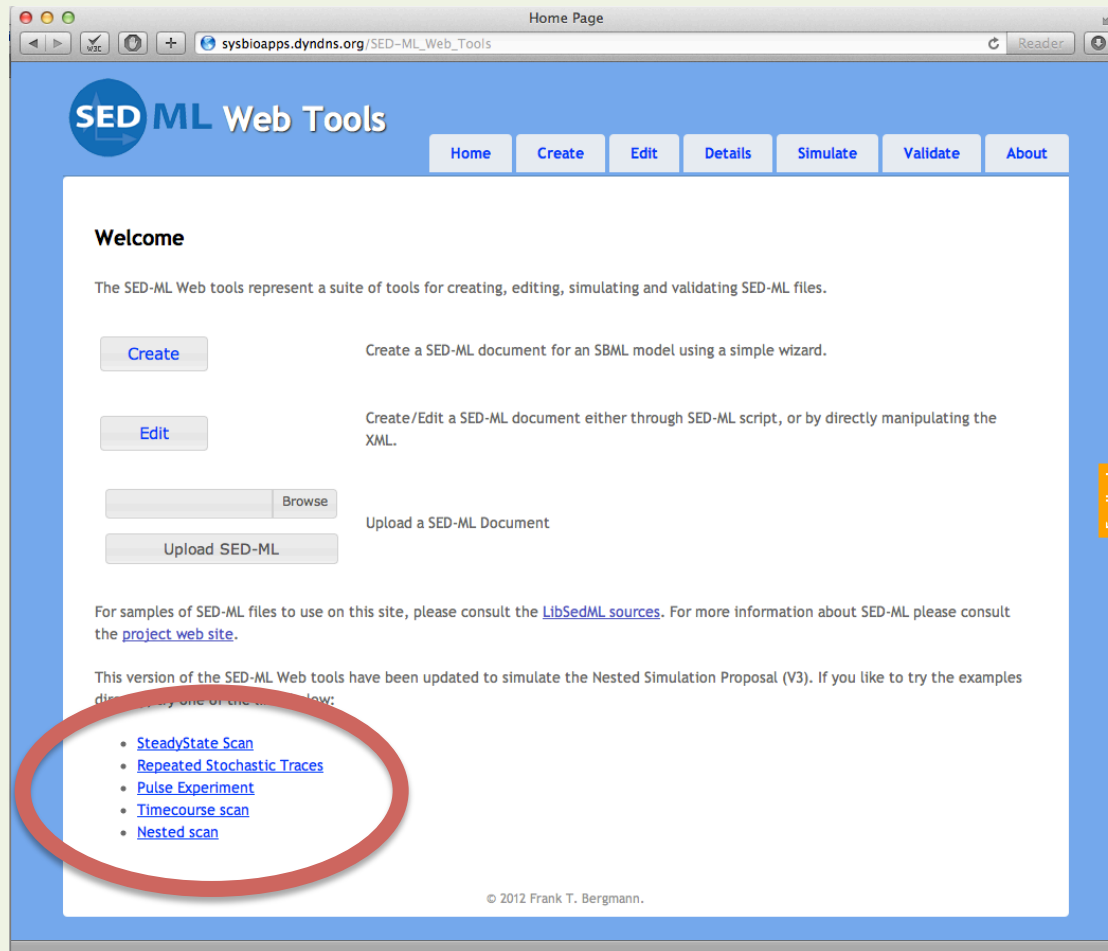
- Parameterizable Simulation Classes
- Storing the last state of a task as a new model
- Introduction of new Variables (for accessing implied variables)
- Advanced Post-processing in Data Generators
- Access of external data

Available Online



http://sysbioapps.dyndns.org/SED-ML_Web_Tools

Available Online



http://sysbioapps.dyndns.org/SED-ML_Web_Tools

Thank You!

- More Information here:
 - <http://co.mbine.org/standards/sed-ml/proposal>
 - <http://sed-ml.org>
 - <http://sysbioapps.dyndns.org>
 - <http://frank-fbergmann.blogspot.com>