



Dymola 2012

Main Highlights

10 June 2011

Dymola 2012 highlights

Enhanced model inspection

- See inherited contents

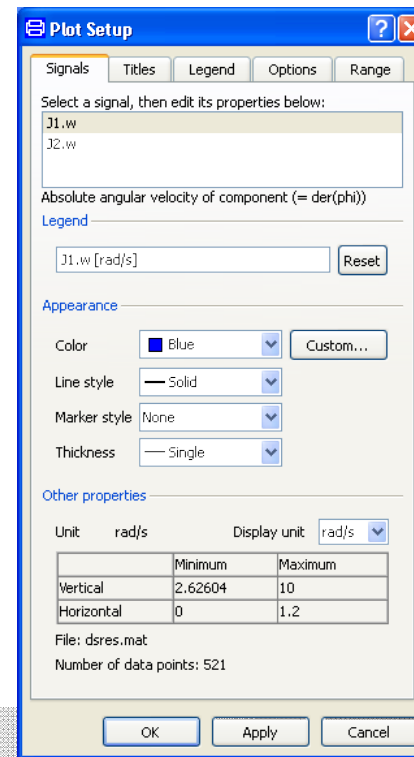
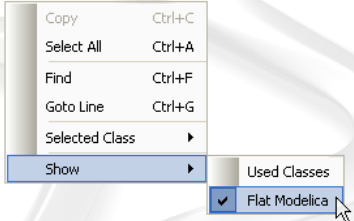
Improved plotting

- Customization of appearance

```
model Inductor
parameter Modelica.SIunits.Inductance L(start = 1) "Inductance";

Modelica.SIunits.Voltage v "Voltage drop between the two pins (= p.v - n.v)";
Modelica.SIunits.Current i "Current flowing from pin p to pin n";
Modelica.SIunits.Voltage p.v "Potential at the pin";
Modelica.SIunits.Current p.i "Current flowing into the pin";
Modelica.SIunits.Voltage n.v "Potential at the pin";
Modelica.SIunits.Current n.i "Current flowing into the pin";

// This model
// class Modelica.Electrical.Analog.Basic.Inductor
// extends Modelica.Electrical.Analog.Interfaces.OnePort
equation
v = p.v - n.v;
0 = p.i + n.i;
i = p.i;
// end of extends
L*der(i) = v;
end Inductor;
```



Dymola 2012 highlights

- **Export to FMI for co-simulation**
 - Exports simulation module with integrated numeric solver
 - Complies with FMI specification
- **Support for Modelica 3.2 and MSL 3.2**
- **Dymola 32/64-bit application**
 - Manage larger simulation results and table data sets
- **New Dymola version numbering scheme**
- **Updated FLEXnet**
 - Fixes some issues on Windows 7

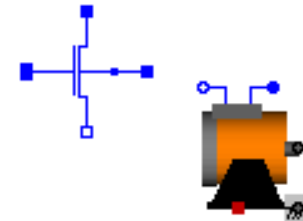
Modelica 3.2

Support for Modelica 3.2 specification

- Operator overloading (e.g. + on complex numbers)
- Functions as arguments to functions
- Homotopy operator (improved initialization of fluid systems)

Modelica Standard Library 3.2

- Complex math, complex blocks
- Quasi-stationary electrical, SPICE3 models
- Fluid dissipation
- New: 357 models and blocks, 295 functions, 7 packages



Libraries

Air Conditioning Library

- Support for engine cooling applications
- Improved performance for detailed heat exchanger models
- R1234yf is now part of the standard distribution
 - New, more accurate, equation of state
- Modelica 3.2 streams concept used in connectors

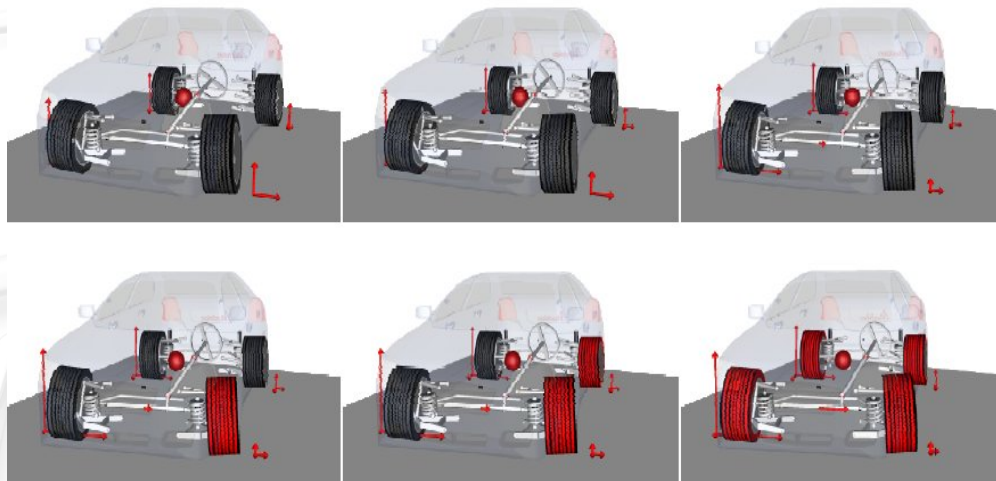
Hydraulics Library

- Models for accumulators, accurate model for high pressure Nitrogen
- Possibility to use appropriate fluids from Modelica.Media
- Several new directional control valves

Libraries

Vehicle Dynamics Library

- Enhanced support for steady state and quasi steady state driving situations, e.g. cornering, corner entry and exit, and braking



- Improved table based suspensions; coupling effects between bump/steer
- Improved configurability of suspensions