

Parameter Control Center

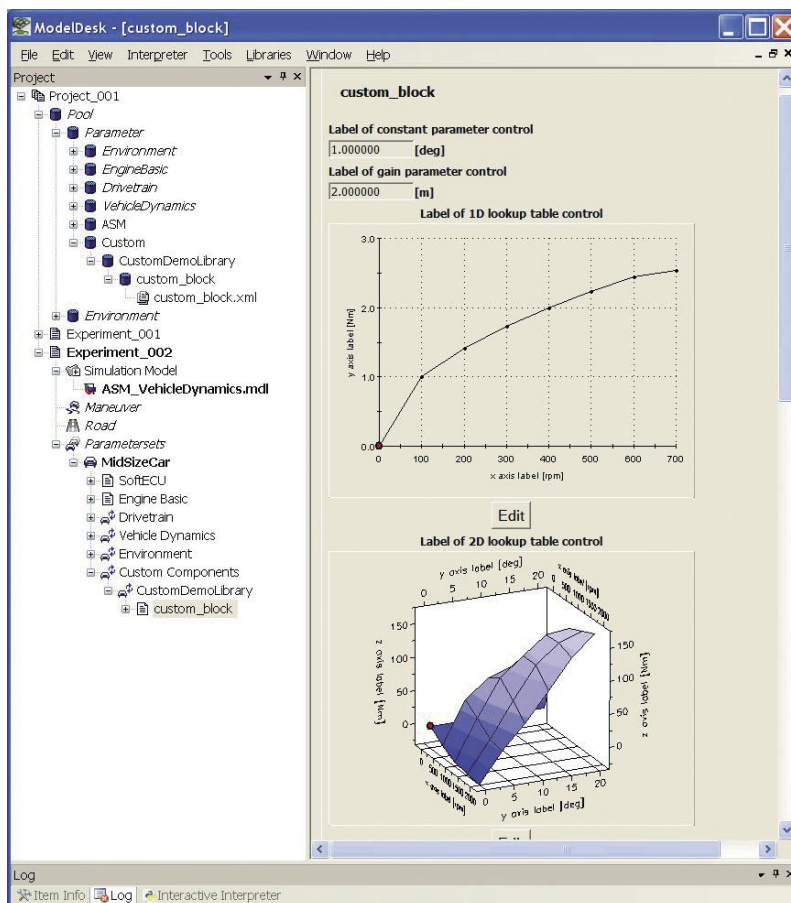
- Graphical parameterization of custom models
- Central parameter management
- Efficient parameter management

What distinguishes the Automotive Simulation Models (ASMs) is their open design philosophy. Users can view the models right down to Simulink block level, and even modify them or add their own models to them. This open, flexible approach is now made even more convenient and efficient with Version 2.0 of ModelDesk, the parameterization software. ModelDesk now detects models that were modified or added by the user and offers graphical parameterization functions for them.

Custom Library User Interfaces

So that ModelDesk can handle custom models, modeling has to comply with a few easy-to-follow ASM design rules. The main one is that if a variable needs to be parameterized in ModelDesk, it must be contained in a masked Simulink subsystem and parameterized via a mask parameter. The masked subsystems are stored in a Simulink library. Intuitive names can be assigned to the

▼ A custom parameter page created by ModelDesk.



```

1 MDL.CustomLibraryDemo.Const_Parameter.Comment = 'Label of constant parameter control';
2 MDL.CustomLibraryDemo.Const_Parameter.Author = '';
3 MDL.CustomLibraryDemo.Const_Parameter.Origin = '';
4 MDL.CustomLibraryDemo.Const_Parameter.Version = '1';
5 MDL.CustomLibraryDemo.Const_Parameter.LastModified = '';
6 MDL.CustomLibraryDemo.Const_Parameter.vName = 'Const_Parameter';
7 MDL.CustomLibraryDemo.Const_Parameter.vUnit = '[deg]';
8 MDL.CustomLibraryDemo.Const_Parameter.v = 1.0;
9
10 MDL.CustomLibraryDemo.Gain_Parameter.Comment = 'Label of gain parameter control';
11 MDL.CustomLibraryDemo.Gain_Parameter.Author = '';
12 MDL.CustomLibraryDemo.Gain_Parameter.Origin = '';
13 MDL.CustomLibraryDemo.Gain_Parameter.Version = '1';
14 MDL.CustomLibraryDemo.Gain_Parameter.LastModified = '';
15 MDL.CustomLibraryDemo.Gain_Parameter.vName = 'Gain_Parameter';
16 MDL.CustomLibraryDemo.Gain_Parameter.vUnit = '[m]';
17 MDL.CustomLibraryDemo.Gain_Parameter.v = 2.0;
18
19 MDL.CustomLibraryDemo.Map_ID_LookupTable.Comment = 'Label of 1D lookup table control';
20 MDL.CustomLibraryDemo.Map_ID_LookupTable.Author = '';
21 MDL.CustomLibraryDemo.Map_ID_LookupTable.Origin = '';
22 MDL.CustomLibraryDemo.Map_ID_LookupTable.Version = '1';
23 MDL.CustomLibraryDemo.Map_ID_LookupTable.LastModified = '';
24 MDL.CustomLibraryDemo.Map_ID_LookupTable.xName = 'x axis label';
25 MDL.CustomLibraryDemo.Map_ID_LookupTable.xUnit = '[rpm]';
26 MDL.CustomLibraryDemo.Map_ID_LookupTable.yName = 'y axis label';
27 MDL.CustomLibraryDemo.Map_ID_LookupTable.yUnit = '[No]';
28 table = [
29 0.0 0.0
30 100.0 1.0
31 200.0 1.41
32 300.0 1.73
33 400.0 2.0
34 500.0 2.23

```

▲ Declaring parameters as masked variables with names, units, and initial values.

parameters, along with the units to be displayed by the user interface. ModelDesk supports scalar, vectorial, and table-based parameters.

The new Simulink library can be registered in ModelDesk. If a model loaded to ModelDesk contains components from the registered library, the parameters from the library are displayed on screen. There is a separate parameter page for the parameters of each subsystem.

Central Parameter Management

When an experiment containing custom models is loaded, ModelDesk displays them in the same way as standard ASM parameters. Users can simply select the model components from the Model Navigator and parameterize them graphically on the automatically generated parameter pages. Now that support for user-specific models has been added to ModelDesk, it can be used to manage all experiment data and all parameter sets.