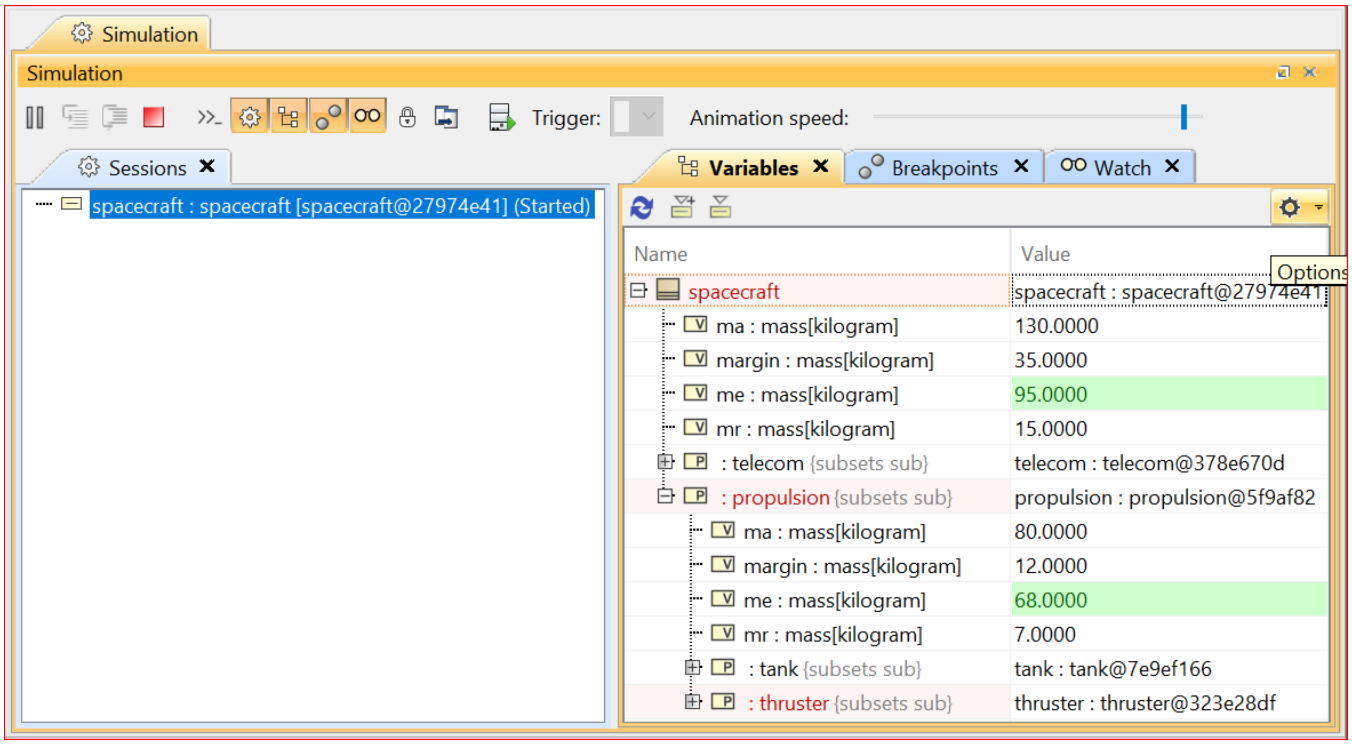
Variables pane

The **Variables** pane displays the structure of a model being executed and runtime values during model simulation. This pane contains two major columns: **Name** and **Value**:

- **Name**: represents the context and structural features of a model being simulated. The **[]** and **{}** notations are automatically shown after the structural feature as follows:
  - **[]**: the current State and number of Events of a State Machine and multiplicities.
  - **{}**: constraint expressions with parameters and subsets.
- **Value**: represents runtime values of structural features from the **Name** column. A runtime value can be the input or output of simulation. You can directly edit runtime values in the **Value** column if they are Boolean, Integer, Real, and String.



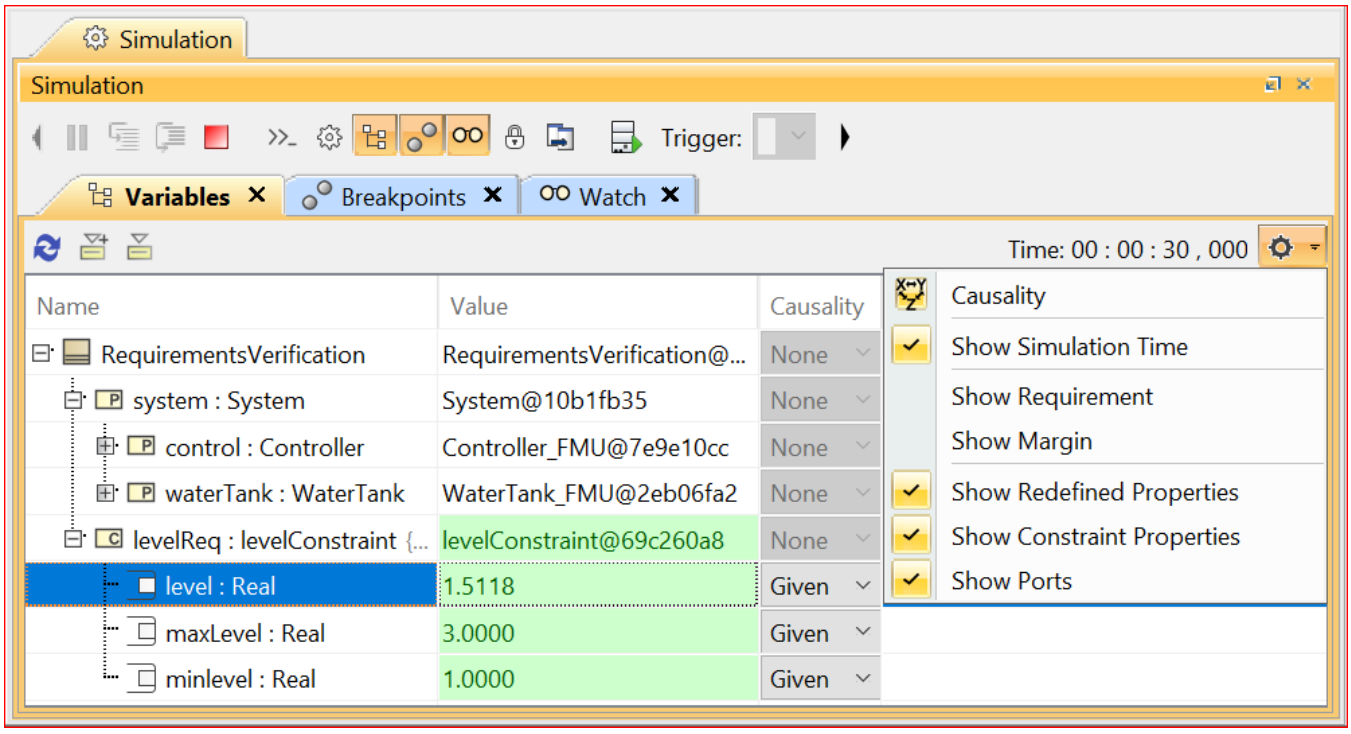
The Variables pane of a simulation model session.

You can also display **Causality**, **Show Requirement**, and **Show Margin** columns and configure the filtering by clicking the  button at the top-right corner. Also, you can select a session in the **Sessions** pane to display its runtime objects and values that will be shown in the **Variables** pane accordingly.

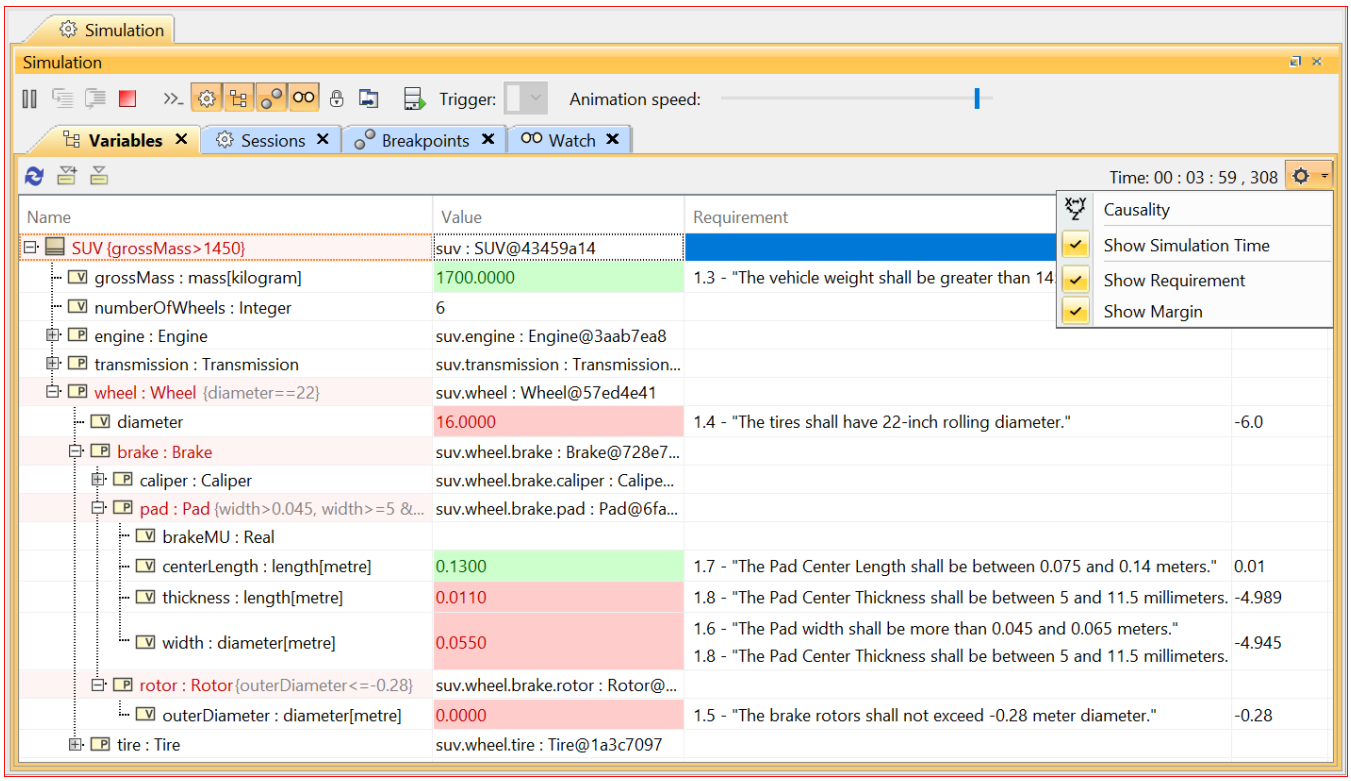
The following table lists the toolbar buttons and options of the **Variables** pane

Button	Name	Function
	Refresh	To refresh the tree and values in the **Variables** pane.
	Export to New Instance	To create a new InstanceSpecification and export a selected runtime object to a newly created Instance Specification.
	Export to Instance	To export a selected runtime object to an InstanceSpecification, which is used to create the runtime object, or to an existing InstanceSpecification (see Exporting Runtime Objects to InstanceSpecifications). All of the slot values of the InstanceSpecification will be replaced by the runtime values of the runtime object.
	Options:	To allow displaying and filtering elements in the **Variables** pane. Each option will be available only when the simulating model contains such kind of element to be filtered.
	• **Causality**	To show the **Causality** column. The value of a property represents the result of evaluating a mathematical equation: **None**, **Given**, and **Target**. You can change the causality of the property using the symbolic math toolbox if the parametric evaluator, e.g., MATLAB, supports solving symbolic expressions.

	• **Show Simulation Time**	To display the simulation time near the Options button. The value can be paused when clicking the Pause button and disappear when clicking the Stop the simulation button.
	• **Show Requirement**	To display the **Requirement** column. The value is shown only for properties that have Satisfy Relations with the Requirements in req IDs (req text format).
	• **Show Margin**	To display the **Margin** column. The value is calculated from value properties and the Requirement boundary with a Satisfy Relation.
	• **Show Derived Unions**	To display derived unions.
	• **Show Redefined Properties**	To display redefined properties.
	• **Show Reference Properties**	To display reference properties.
	• **Show Adjunct Properties**	To display SysML adjunct properties.
	• **Show Constraint Properties**	To display SysML constraint properties.
	• **Show Ports**	To display Ports.



The options for displaying and filtering elements in the Variables pane.



The result of selecting the Show Simulation Time, Show Requirement, and Show Margin options of the Variables pane.

Related page

- Exporting runtime objects to InstanceSpecifications