Anti-Lock Braking System (ABS)

This example describes a simple model for an Anti-Lock Braking System

(ABS). The model simulates the dynamic behavior of a vehicle

under hard braking conditions. The model represents a single wheel, which

may be replicated a number of times to create a model for a multi-wheel

vehicle.

DATA INSPECT0R ::

The plots show the ABS simulation results (for default parameters). The first plot shows the wheel angular velocity and corresponding vehicle angular velocity. This plot shows that the wheel speed stays below vehicle speed without locking up, with vehicle speed going to zero in less than 15 seconds.

SOLVER SELECTION ::

both the top model and the referenced model use a variable step solver, so Simulink

will track zero-crossings in the referenced model.

LOOKUP\_TABLE ::

mu-slip friction curve is plotted using the 1D look up table

SIGNAL BUILDER ::

Constatnt desired slip of 0.2 is generated using the signal builder