

High-Fidelity Transmission Simulation for Hardware-in-the-Loop Applications

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Model-based development plays a central part in optimizing existing transmission designs and exploring new system architectures. Design iterations and performance evaluations are done through virtual prototypes of the transmission systems, used in hardware-in-the-loop (HiL) simulations. In this paper, MapleSim's Driveline Component Library (Figure 1) is introduced. The combination of this Modelica library and Maple's core symbolic technology, enables engineers to include more detail into their models targeted for real-time simulation of transmission systems. The paper also includes some results from the work at Aisin AW in modeling transmissions and HiL testing.

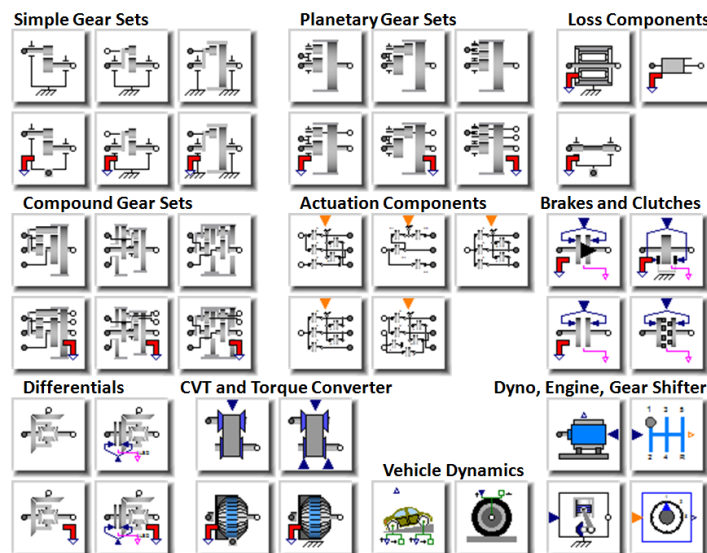


Figure 1: Driveline Component Library

References

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