

## **Symbolic Techniques for Optimizing Multibody Models**

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Engineers at the forefront of product development have embraced plant modeling tools over traditional signal flow software. However, multibody models generate large systems of equations. The equations may include redundant multiplications, differential algebraic equations and common operations repeated many times.

These equations can take a significant amount of time to solve numerically. However, modern plant modeling tools use advanced symbolic math technology to optimize these equations to the most computationally efficient form, thus making them faster to solve and more efficient to implement in a real-time system. This presentation will explore this concept.