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Implicit-explicit time integration in multibody dynamics. In: Proceedings of IDETC/CIE 2005, ASME 2005 International Design Engineering Technical Conferences, Long Beach, CA, 24-28 September, 2005.

**Abstract.** Robust and efficient time integration methods in multibody dynamics are tailored to the specific structure of the equations of motion. In the present paper we discuss the combination of explicit methods for non-stiff solution components with implicit methods for stiff solution components and constraints. The methods are successfully used in the dynamical simulation of large-scale multibody system models that display a clear partitioning into stiff and non-stiff subsystems.

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