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Michael Hanke, Ebroul Izquierdo Macana and Roswitha März: On asymptotics in case of linear index-2-DAEs

Abstract: In this paper we investigate the asymptotic behaviour of solutions of linear index-2 differential algebraic equations and their influence on the numerical integration. The DAE and its solution are decomposed into their essential components. In a similar way we proceed with Runge-Kutta methods and BDFs. In the consequence classical stability results are carried over to that case supposed certain subspaces do not rotate. On the other hand the significance of those subspaces becomes obvious.