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Nonuniqueness theorem for a singular Cauchy problem. (English) Zbl 0970.34005
[Georgian Math. J. 7, No. 2, 317-327 \(2000\)](#).

A general nonuniqueness criterion for the nonsingular Cauchy problem obtained by the present author elsewhere [[Dyn. Contin. Discrete Impulsive Syst. 3, No. 1, 97-111 \(1997; Zbl 0870.34006\)](#)] is extended to a singular case. Since the scalar function has been replaced by the vector Lyapunov function, the results apply to wider classes of differential equations. A number of illustrative examples is considered.

Reviewer: [Yuri V.Rogovchenko \(Famagusta\)](#)

MSC:

[34A12](#) Initial value problems, existence, uniqueness, continuous dependence and continuation of solutions to ordinary differential equations Cited in **3** Documents

Keywords:

[uniqueness and nonuniqueness of solutions; singular Cauchy problem; Lyapunov functions](#)

Full Text: [EuDML](#)