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**On  $x' = f(t, x)$  and Henstock-Kurzweil integrals.** (English) Zbl 0733.34004

Differ. Integral Equ. 4, No. 4, 861-868 (1991).

The authors take into consideration the Cauchy problem  $x' = f(t, x)$ ,  $x(\tau) = \xi$ , in Henstock-Kurzweil integral setting. More precisely, they prove an existence result which extends the Carathéodory theorem and a continuous dependence result with respect to a parameter. Examples are given to illustrate these results.

Reviewer: [A.Salvadori \(Perugia\)](#)

**MSC:**

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

Cited in **25** Documents

[34A25](#) Analytical theory of ordinary differential equations: series, transformations, transforms, operational calculus, etc.

[34A99](#) General theory for ordinary differential equations

**Keywords:**

Cauchy problem; Henstock-Kurzweil integral; existence; continuous dependence