

Summability of canard-heteroclinic saddle connections

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For a given (real analytic) slow-fast system

$$\begin{cases} \dot{x} &= \epsilon f(x, y, \epsilon) \\ \dot{y} &= g(x, y, \epsilon), \end{cases}$$

that admits a slow-fast saddle and that satisfies some mild assumptions, the Gevrey-summability properties of the saddle separatrix tangent in the direction of the critical curve are investigated: 1-summability is shown. It is also shown that slow-fast saddle connections of canard type have summability properties, in contrast to the typical lack of Gevrey-summability for canard solutions of general equations.

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