On an assignment from Carles Simó without due date, ten years later

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Abstract

In a short visit to Sevilla in 1995, we asked Carles about the analyticity of Poincaré maps derived from planar piecewise linear systems. Here, we recall the Carles's answer and review our results in related problems both in planar and higher dimensional piecewise linear systems. In particular, some results from [1] and [2] will be reported.

References

[1] V. Carmona, E. Freire, E. Ponce, J. Ros and F. Torres. Limit cycle bifurcation in 3D continuous piecewise linear systems with two zones. Application to Chuas circuit. *Int. J. Bifurcation and Chaos*, 15(10):3153–3164, 2005.

[2] E. Freire, E. Ponce and J. Ros. The focus-center-limit cycle bifurcation in symmetric 3D piecewise linear systems *SIAM J. Appl. Math.*, 65(6):1933–1951, 2005.