

Existence of periodic orbits for piecewise-smooth vector fields with sliding region via Conley theory.

Angie Tatiana Suárez Romero

Advisor: Ewerton Rocha Vieira.

The Conley theory has a tool to guarantee the existence of periodic orbits in isolating neighborhoods of semi-dynamical systems; this tool is the main result of [1]. We prove that the positive trajectories generated by a piecewise-smooth vector field $Z = (X, Y)$ in a closed manifold of dimension three without the scape region produce a semi-dynamical system. Thus, supported by [1], we have a mechanism to warrant the existence of periodic orbits in this class of piecewise-smooth vector fields.

Referências

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