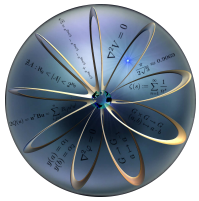

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Pugh's general density theorem

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Let M be a compact smooth manifold. There is a residual subset of $\mathrm{Diff}^1(M)$ in which every element f satisfies $\overline{\mathrm{Per}(f)} = \Omega(f)$. In other words: Generically, the set of periodic points of a $\mathcal{C}^1$ diffeomorphism is dense in its nonwandering set.

Here, $\mathrm{Diff}^1(M)$ denotes the set of all $\mathcal{C}^1$ difeomorphisms from M to itself, endowed with the (strong) $\mathcal{C}^1$ topology.

References

[1] Pugh, C., *An improved closing lemma and a general density theorem*, Amer. J. Math. **89** (1967).