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## Kupka-Smale theorem

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Let  $M$  be a compact smooth manifold, and let  $\text{Diff}^k(M)$  denote the space of  $\mathcal{C}^k$  diffeomorphisms from  $M$  to itself. For every  $k \in \mathbb{N}$ , the set of Kupka-Smale diffeomorphisms is <http://planetmath.org/Residual> residual in the  $\mathcal{C}^k$  Whitney topology of  $\text{Diff}^k(M)$ .