Iterated function systems on the circle

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Some dynamical properties such as transitivity, minimality, density of periodic orbits, can be also studied for iterated function systems (IFS). Blending regions are introduced as open sets which are minimal sets for an IFS under small C^1-perturbations. Duminy's Lemma shows examples of blending regions for an IFS generated by two maps on the real line close enough to the identity. An extension of this lemma allows us to study the dynamics of IFS of generic diffeomorphisms on the circle close enough to the identity. As in the Denjoy's Theorem, no invariant minimal Cantor sets appear under conditions of regularity in the IFS. In this setting, it is characterized when S^1 is a minimal set of an IFS and it is obtained an spectral decomposition result about of the dynamic of the limit set of an IFS.