A higher dimensional Poincaré-Birkhoff theorem for Hamiltonian flows

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In a joint paper with Antonio J. Ureña (Annales de lnstitut Henri Poincaré, 2017) we proposed an extension to higher dimensions of the Poincaré-Birkhoff Theorem which applies to Poincaré time-maps of Hamiltonian systems. Applications have been given to the search of periodic solutions of pendulum-type systems, weakly-coupled superlinear systems, some kind of sublinear systems, and perturbations of completely integrable systems. Recently, an extension to infinite-dimensional Hamiltonian systems has also been obtained.