Bifurcations from a normally degenerate cycle in forced differential equations

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Abstract

Bifurcations of periodic solutions from a resonant period manifold in forced systems are intensively studied in the literature, usually assuming that the period manifold is normally nondegenerate. In this talk we consider the situation when the normal degeneracy condition is relaxed, focusing specifically on the case when the period manifold is a cycle. The results are obtained analyzing the Poincaré translation map of the perturbed system.