

PERTURBATION THEORY TO ANY ORDER AND HILBERTS 16TH PROBLEM ON PERIOD ANNULI

JEAN-PIERRE FRANÇOISE

Sorbonne Université, Paris, France
jeanpierre.francoisex@gmail.com

We consider the perturbation setting of the double quadratic Lotka-Volterra system perturbed by a quadratic planar vector field. This is a joint work with Lubomir Gavrilov (2022). In this case, we can introduce explicitly the associated pair of Bautin ideals. The first and second order bifurcation functions can be computed as iterated integrals and we can apply the method of the Nash space of arcs (joint work with Lubomir Gavrilov and Dongmei Xiao, 2020).