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*Symplectic homology and periodic orbits near symplectic extrema*

In this talk I will describe joint work with Kai Cieliebak and Viktor Ginzburg in which we use methods from symplectic topology to strengthen previous existence results for periodic orbits of Hamiltonian flows. More precisely, we show that for sufficiently small neighborhoods of compact symplectic submanifolds the symplectic homology of Floer and Hofer is nontrivial. This implies the existence of periodic orbits on a dense set of level sets near symplectic extrema.