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Leaf-wise intersections and Rabinowitz Floer homology

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This is joint work with Urs Frauenfelder. We address the leaf-wise intersection problem for hypersurfaces of restricted contact type. This problem originates from work of Moser in 1978. We show how critical points of a perturbed Rabinowitz action functional give rise to a solution of this problem.

From this we derive existence results for Hofer-small Hamiltonian diffeomorphism. If the Rabinowitz Floer homology does not vanish we obtain existence results for general Hamiltonian diffeomorphisms.

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