



NICE WEAK KAM METHODS IN NICE

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Circles on the verge of analyticity breakdown

Abstract

It is well known that analytic twist mappings which are close to integrable, admit analytic invariant circles with a Diophantine rotation number. As we increase the perturbation, the weak KAM solutions exist but may be discontinuous.

The boundary between maps that admit analytic solutions with a certain frequency and those who do not has been extensively studied. We will present some rigorous results and some numerical conjectures on the nature of the boundary and the phenomena that happen in its neighborhood.

We will discuss twist mappings and some variational problems that do not have any interpretation as dynamical systems.