

Commutators of Lax-Oleinik and propagation of singularities

Wei Cheng

Nanjing University

email: chengwei@nju.edu.cn

Abstract

In this talk we will discuss the commutators of Lax-Oleinik operators in the context of weak KAM theory. This remind us to obtain a criterion of controllability issue of the Hamilton-Jacobi equations, at least in classical case. This allows us to understand a vector field associated to intrinsic singular characteristic. Applying Young measure theory, this also gives us an intuitive and simple explanation of the mechanism on the propagation of singularities along intrinsic singular characteristic. Some further problems will be also discussed. This is based our recent work with Piermarco and Jiahui Hong.