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Applications of weak KAM theory to some gravitational problems

Weak KAM theory has been applied to the Newtonian n body problem. The main result obtained on the dynamics was the abundance of completely parabolic motions. Although this is in itself interesting, we believe that the theory should give more results on the description of the dynamics of this classical problem, as well as for some other gravitational problems. The purpose of this talk will be to describe the state of the art in this research line.