School of Data Science
香港城市大學
City University of Hong Kong

LIU BIE JU CENTRE FOR MATHEMATICAL SCIENCES

SEMINAR SERIES

Weak Solutions of Mean Field Game Master Equations

DATE 6 August 2019 (Tuesday)

TIME 4:30pm to 5:30pm

VENUE P7510, 7/F, Yeung Kin Man Academic Building (YEUNG), City University of Hong Kong

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Abstract

In this talk we study master equations arising from mean field game problems, under the crucial monotonicity conditions. Classical solutions of such equations require very strong technical conditions. Moreover, unlike the master equations arising from mean field control problems, the mean field game master equations are non-local and even classical solutions typically do not satisfy the comparison principle, so the standard viscosity solution approach seems infeasible. We shall propose a notion of weak solution for such equations and establish its wellposedness. Our approach relies on a new smooth mollifier for functions of measures, which unfortunately does not keep the monotonicity property, and the stability result of master equations. The talk is based on a joint work with Jianfeng Zhang.

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All are welcome