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Wilfrid Gangbo, Alpar Meszaros, Chenchen Mou and Jianfeng Zhang*

(jianfenz@usc.edu). *Mean Field Games Master Equations with Non-separable Hamiltonians and Displacement Monotonicity.*

In this manuscript, we propose a structural condition on non-separable Hamiltonians, which we term *displacement monotonicity* condition, to study second order mean field games master equations. A rate of dissipation of a bilinear form is brought to bear a global (in time) well-posedness theory, based on a-priori uniform Lipschitz estimates in the measure variable. Displacement monotonicity being sometimes in dichotomy with the widely used Lasry-Lions monotonicity condition, the novelties of this work persist even when restricted to separable Hamiltonians. (Received January 13, 2021)