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P. Jameson Graber* (jameson_graber@baylor.edu), One Bear Place #97328, Waco, TX 76708. *Existence of Solutions for the Master Equation in Mean Field Type Control*. Preliminary report.

“Mean field type control” refers to the optimal control problem for a McKean-Vlasov type stochastic differential equation, in which the dynamics of the state variable depend on its law (probability distribution). In this talk we examine the corresponding “master equation” on the space of random variables. Such an equation can be derived formally by differentiating a Hamilton-Jacobi equation, so if the latter has smooth enough solutions, the former will also have solutions. (Received January 09, 2017)