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Sommario/riassunto	"We analyze a class of nonlinear partial differential equations (PDEs) defined on Rd P2pRdq, where P2pRdq is the Wasserstein space of probability measures on Rd with a finite second-order moment. We show that such equations admit a classical solutions for sufficiently small time intervals. Under additional constraints, we prove that their solution can be extended to arbitrary large intervals. These nonlinear PDEs arise in the recent developments in the theory of large population stochastic control. More precisely they are the so-called master equations corresponding to asymptotic equilibria for a large population of controlled players with mean-field interaction and subject to

minimization constraints. The results in the paper are deduced by exploiting this connection. In particular, we study the differentiability with respect to the initial condition of the flow generated by a forward-backward stochastic system of McKean-Vlasov type. As a byproduct, we prove that the decoupling field generated by the forward-backward system is a classical solution of the corresponding master equation. Finally, we give several applications to meanfield games and to the control of McKean-Vlasov diffusion processes"--