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P. Jameson Graber* (jameson_graber@baylor.edu), One Bear Place #97328, Waco, TX 76798, and **Alan Mullenix, Frederic Bonnans** and **Laurent Pfeiffer**. *Weak solutions for variational mean field games of controls.*

Recently, Bonnans et al. proved existence and uniqueness of classical solutions to a system of PDE that models a mean field game in which players can choose a strategy based on the distribution of both states and controls. They show that the system has a variational structure, i.e. it is the optimality condition for an infinite dimensional convex minimization problem. This inspires us to extend the theory of weak solutions from Cardaliaguet et al. to this class of mean field games of controls. We need only growth rates on the data, rather than smoothness, and the diffusion term can be degenerate (even zero) rather than uniformly elliptic. (Received September 11, 2019)