

1023-35-1333

Wilfrid Gangbo, Truyen Nguyen and Adrian Tudorascu* (adriant@math.gatech.edu),
School of Mathematics, Ga Tech, 686 Cherry Street, Atlanta, GA 30332. *The two-point boundary
problem for the Euler-Poisson system.*

We shall address questions of existence and representation of solutions for the two-point boundary problem associated to an Euler-Poisson system in one spatial dimension. The results we shall describe are obtained by treating the evolution as an infinite-dimensional Hamiltonian flow with respect to the Wasserstein distance in the space of probability measures with finite second-order moments. Conservation of the Hamiltonian along action minimizing paths shall also be discussed. (Received September 25, 2006)