1038-35-72 **Robert Glassey**, **Jack Schaeffer** and **Stephen Pankavich*** (`sdp@indiana.edu`), Indiana University, Department of Mathematics, Rawles 365, Bloomington, IN 47405. *Time Decay for a One-Dimensional, Two-Component Plasma.*

A collisionless plasma is described by the Vlasov-Poisson system, or in the presence of large velocities, the relativistic version of this system. In recent work, we consider solutions to either system in one space and one velocity dimension, for two species of opposingly charged ions. A new identity is derived and used to prove results concerning the large time behavior of solutions. Specifically, we show a priori that the electric field must tend to zero in the maximum norm. (Received January 29, 2008)