Mathematics, Statistics, and Computer Science   **@ UIC**

Analysis and Applied Mathematics Seminar

Global dynamics in Euler-Maxwell flows

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Abstract: The Euler-Maxwell equations model the behavior of a plasma as the superposition of two compressible charged fluids interacting with their self-consistent electromagnetic field. In the absence of the coupling, small disturbances can create shocks in compressible Euler equations, but we show that this instability disappears with the electromagnetic field. This reduces to a small data/global existence result for quasilinear dispersive systems. I will review different joint works with Y. Deng, Y. Guo, A. Ionescu, E. Grenier and M. Suzuki.

Monday, March 2 at 4:00 PM in 636 SEO