TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, January 29, 2018, 2:40 p.m.

Sticky particles and the Euler-Poisson equations

by Ryan Hynd

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Abstract: We will consider the dynamics of a finite number of particles that interact pairwise and undergo perfectly inelastic collisions. Such physical systems conserve mass and momentum and satisfy the Euler-Poisson equations. In one spatial dimension, we will show how to derive an extra entropy estimate which allows us to characterize the limit as the number of particles tends to infinity.