

DIFFERENTIAL GEOMETRY/PDE SEMINAR

WEDNESDAY, JULY 7, 2010

THO 331

4–5PM

Differentiability of Solutions to Second-Order Elliptic Equations via Dynamical Systems

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For a second-order elliptic equation in divergence form we investigate conditions on the coefficients which imply that all solutions are Lipschitz continuous or differentiable at a given point. We assume the coefficients have modulus of continuity satisfying the square-Dini condition, and obtain additional conditions that examples show are sharp. Our results extend those of previous authors who assume the modulus of continuity satisfies the Dini condition. Our method involves the study of asymptotic properties of solutions to a dynamical system that is derived from the coefficients of the elliptic equation.

For more information about this seminar, visit the DG/PDE Seminar Web page (from the Math Department home page, www.math.washington.edu, follow the link **Seminars, Colloquia, and Conferences**).

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