DIFFERENTIAL GEOMETRY/PDE SEMINAR

WEDNESDAY, November 4
Communications 228
3:45 pm

Averages over curves with torsion

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Let $\gamma(t)$ be a smooth curve in three dimensions, with everywhere nonvanishing curvature and nonvanishing torsion, and let T be the operation of convolution against arclength measure on γ,

$$Tf(x) = \int f(x - \gamma(t))\, dt\,.$$

We consider the simply stated, yet still unsolved, question of the L^p smoothing properties of T; that is, how many derivatives does T gain on L^p, depending on p? We present partial results, including a plausible conjecture, and discuss the relation to the still open cone multiplier problem.

For more information about this seminar, view the Differential Geometry/PDE Seminar World-Wide Web page at `http://www.math.washington.edu/DGPDE/dg.html` or from the **Seminars, Colloquia, and Conferences** section of the Math Department home page.