

DIFFERENTIAL GEOMETRY/PDE SEMINAR

FRIDAY, AUGUST 25, 2006

PADEL FORD C-401

2:40PM

L^2 decay estimates for oscillatory integral operators in several variables with homogeneous polynomial phases

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Oscillatory integral operators mapping $L^2(\mathbb{R}^{n_x})$ to $L^2(\mathbb{R}^{n_z})$ play an important role in many problems in harmonic analysis and partial differential equations. Extending earlier work of Phong and Stein (in the case $n_x = n_z = 1$), we obtain optimal decay rates for the L^2 operator norm of oscillatory integral operators whose phase functions are generic homogeneous polynomials in $2+2$ variables. Some other higher dimensional situations are also addressed, specifically when the polynomial is of sufficiently high degree relative to $n_x + n_z$. This is joint work with Allan Greenleaf and Wan Tang.

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**).