RENSSELAER POLYTECHNIC INSTITUTE

DEPARTMENT OF MATHEMATICAL SCIENCES COLLOQUIUM

"Fractalization and Quantization in Dispersive Systems"

Abstract:

The evolution, through spatially periodic linear dispersion, of rough initial data produces fractal, non-differentiable profiles at irrational times and, for asymptotically polynomial dispersion relations, quantized structures at rational times. Such phenomena have been observed in dispersive wave models, optics, and quantum mechanics, and lead to intriguing connections with exponential sums arising in number theory. Ramifications and recent progress on the analysis, numerics, and extensions to nonlinear wave models, both integrable and non-integrable, will be presented.

Peter J. Olver (University of Minnesota)

Monday, November 19, 2018

4-5pm

Amos Eaton 214

Host: Peter Kramer

Refreshments served 3:30-4pm Amos Eaton 4th Floor Lounge