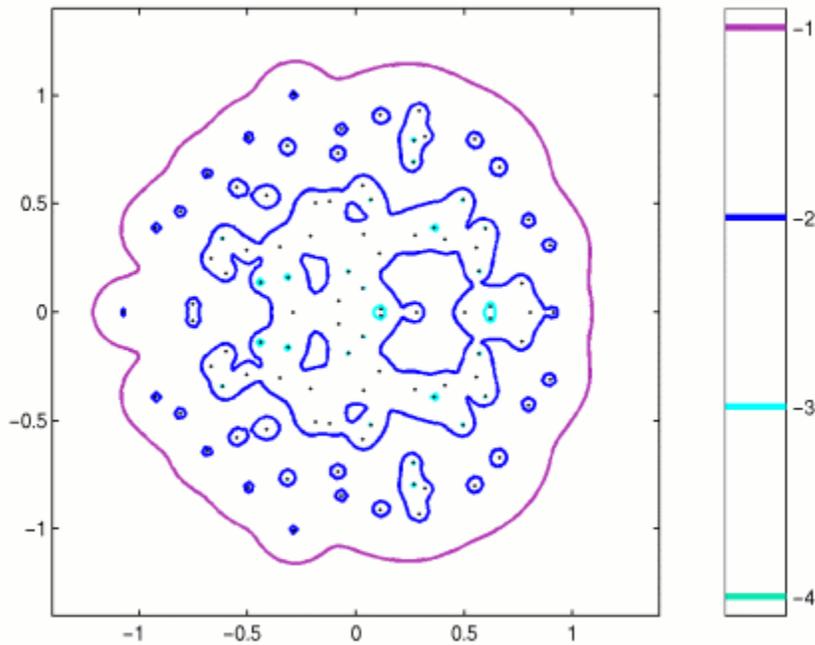# Solvability of Linear Partial Differential Equations and the Pseudospectrum

(Pizza Provided)
Wednesday, November 9th
4:15-5:05, room 380C

Chris Henderson

ABSTRACT:

Before the 1950's, it was generally believed that linear partial differential equations with smooth enough coefficients could be locally solved. However, in 1957 Hans Lewy shocked the mathematical world by exhibiting a simple linear equation which could not be solved in any neighborhood. Later, Hormander realized that this example was a part of a more general phenomenon and that most equations with non-constant complex coefficients were not locally solvable. We will discuss this example, define the pseudospectrum, and show how Hormander related the pseudospectrum to unsolvability.

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