



## GLOBAL ANALYSIS SEMINAR

# The Cauchy problem for the homogeneous Monge-Ampere equation

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**Abstract:** The Cauchy problem for the homogeneous real and complex Monge-Ampere equations (HRMA and HCMA) arises naturally as the initial value problem for geodesics in spaces of Kahler metrics. It is expected to be an “ill-posed problem,” and there is no known general method for solving it, contrary to the much-studied Dirichlet problem. Previously, we proposed a quantization method that we conjectured to solve the Cauchy problem, in its lifespan. We describe our results (joint with S. Zelditch) in this direction, restricting to the real equation (HRMA). This makes contact with classical work of Alexandrov and Pogorelov on flat surfaces in  $\mathbb{R}^3$ , and relies on tools of convex analysis. It suggests the existence of “optimal sub-solutions” in the absence of weak solutions.

Thursday March 31, 3:30–4:20pm

Wachman Hall 527

Note special time and place

<http://math.temple.edu/events/seminars/manifolds/>