LIANGBING LUO, Queen's University

Discrete Approximation on Metric Measure Spaces of Controlled Geometry via Graphs: Dirichlet Forms and Harmonic Functions

Based on the approximation of a metric measure space via discrete graphs, we construct a Dirichlet form. This Dirichlet form is comparable to the upper gradient energy and can be realized as a Gamma-limit of a sequence of induced bilinear forms projected from the discrete energy form on the approximating graphs. Moreover, we approximate harmonic functions on a bounded domain with a prescribed Newton-Sobolev boundary data. Based on joint work with A. Butaev and N. Shanmugalingam.