An Integration Formula via the Global Slope Operator

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Abstract

Eikonal equations in metric spaces have strong connections with the local slope operator (or the De Giorgi slope). This talk discusses an analogous model related to the global slope operator, expressed as $\lambda u + G[u] = \ell$, where $\lambda \geq 0$. The case $\lambda = 0$ is naturally related to the so–called discrete weak KAM theory. Under mild assumptions on the metric space X and the given function ℓ, we establish the well–posedness of this equation. Our techniques further imply a new integration formula based on the global slope operator.

The talk is based on the work:

[1] Trí Minh Lê and Sebastián Tapia-García, On (discounted) global Eikonal equations in metric spaces, arXiv:2410.00530.