

## On a Hardy-Morrey inequality

Ryan Hynd

University of Pennsylvania

Morrey's inequality measures the Hölder continuity of a function whose gradient belongs to an appropriate Lebesgue space. There has been recent interest in understanding the extremals of Morrey's inequality, which are the functions which saturate the inequality. We present a natural variant of Morrey's inequality on a domain which involves the distance to the boundary and discuss the question of whether or not an extremal exists. This is joint work with Simon Larson (Chalmers) and Erik Lindgren (KTH).

In Special Session 48 on Free Boundary Problems and Nonlinear PDEs at the Mathematical Congress of the Americas 2025.