

Deane Yang (Polytechnic University, USA)

Title: L_p affine Sobolev-Zhang inequalities

Abstract: The sharp L_p Euclidean Sobolev inequality proved by Aubin and Talenti plays a crucial role in differential geometry and partial differential equations. It is proved using rearrangement and the Euclidean isoperimetric inequality. Recently, Zhang used the Petty projection inequality to prove a sharp L_1 affine Sobolev inequality that is stronger than the Euclidean version. We show that a recently proved L_p projection inequality can be used to prove a sharp L_p affine Sobolev inequality that is stronger than the Euclidean version.