

1165-35-230

Joshua L Flynn* (joshua.flynn@uconn.edu), 341 Mansfield Rd, University of Connecticut, Storrs, CT 06268, and **Guozhen Lu** and **Nguyen Lam**. *Hardy Identities on Domains*.

In this talk, we present our recent results concerning improving various Hardy inequalities on general domains where the weights are given in terms of the distance or mean distance to the boundary. When the boundary is assumed to have non-positive mean curvature (i.e., the domain is weakly mean convex), then Hardy identities may be obtained where the remainder terms are in terms of the boundary curvature. For arbitrary domains without boundary regularity assumed, E. Davies established Hardy inequalities with the weight given by the mean distance function. We improve these inequalities as well as introduce a general class of weights containing the mean distance function. This is a joint work with N. Lam and G. Lu. (Received January 18, 2021)