## Abstract

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"The Analysis and Geometry of Hardy's Inequality and Applications"

In this talk we present advances that have been made over recent decades in areas of research featuring Hardy's inequality and related topics. The inequality and its extensions and refinements are not only of intrinsic interest but are indispensable tools in many areas of mathematics and mathematical physics. We will also discuss Hardy-type inequalities involving magnetic fields and Hardy, Sobolev and Cwikel-Lieb-Rosenblum inequalities for Pauli and Dirac operators.