

# Weighted inequalities involving Hardy operators, new results and applications

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## **Abstract**

We present new recent results about weighted inequalities involving Hardy and its dual operators as well as superposition of them. We consider Hardy inequalities restricted on the cone of monotone and quasi-concave functions. In the second part of my talk I present applications of this results in the real interpolation theory and embedding theorems for Sobolev, Besov, and potential type spaces modeled on Lorentz-Karamata spaces.