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Joshua Lee Flynn* (joshua.flynn@uconn.edu). *Sharp Caffarelli-Kohn-Nirenberg Type Inequalities on Iwasawa Groups.*

For an Iwasawa group G (i.e., the "boundary" of a real noncompact rank one symmetric space), it is shown that the L^2 -CKN inequalities are sharp for all parameter values except one exceptional case. To show this, generalized Kelvin transforms K_σ are introduced and shown to be isometries for certain weighted Sobolev spaces. An interesting transformation formula for the sub-Laplacian with respect to K_σ is also derived. (Received September 17, 2019)