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Theresa C Anderson* (tcanderson@math.wisc.edu), Madison, WI 53706, and **David E Weirich**. *Why Gehring's inequality fails in Spaces of Homogeneous Type*.

Recently, Andrei Lerner discovered a framework for singular integrals that I and Armen Vagharshakyan extended to spaces of homogeneous type. This led to wide range of applications such as the A_2 theorem. However, a much more classical inequality fails in these spaces that seems to have been undiscovered until very recently. We'll discuss the failure of Gahring's inequality and the consequences. (Received June 30, 2016)