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**Philip T Gressman\*** ([gressman@math.upenn.edu](mailto:gressman@math.upenn.edu)), Department of Mathematics, Dunham Research Lab, 209 South 33rd Street, Philadelphia, PA 19104. *Sublevel sets and coercivity.*

We will discuss a family of problems related to estimates of sublevel sets and present a new inequality on the real line which has far-reaching applications to these problems. This inequality estimates the average magnitude of a smooth, real-valued function with respect to any regular, nonnegative probability measure on the real line and is inspired by the results on central sets of fixed width appearing in the work of Tao and Wright on one-dimensional averaging operators. (Received August 07, 2008)