1086-28-1686   **Stephen David Lewis*** (`stedalew@uw.edu`), University of Washington, Department of
Mathematics, Box 354350, Seattle, WA 98195-435. *The Geometry of Asymptotically Optimally
Doubling Measures.*

A very general question in Geometric Measure Theory is "how does the regularity of a measure affect the geometry of its support?" An asymptotically optimally doubling measure on $\mathbb{R}^n$ is one which infinitesimally behaves like m-dimensional Lebesgue measure. David, Kenig, and Toro, as well as Preiss, Tolsa, and Toro, studied such measures under a mild flatness assumption on the support. In this talk, we discuss the geometry of the support of such measures without any flatness assumptions. (Received September 24, 2012)