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Nageswari Shanmugalingam* (shanmun@uc.edu), Department of Mathematical Sciences, P.O. Box 210025, University of Cincinnati, Cincinnati, OH 45221-0025, and **Juha Kinnunen, Riikka Korte** and **Andrew Lorent**. *Regularity of sets with quasiminimal boundary surfaces in metric measure spaces.*

DeGiorgi proved that Euclidean minimal surfaces are regular outside a subset of codimension at least 2. This result was extended by David and Semmes, who showed that Euclidean sets with quasiminimal boundary surfaces are rectifiable and are locally uniform domains as their interior. In this talk we will describe analogs of the result of David and Semmes in the setting of metric measure spaces with doubling measures supporting a 1-Poincaré inequality. These results are applied to the study of quasiminimal surfaces in weighted Euclidean spaces with strong A_∞ -weights. This is based on joint work with Juha Kinnunen, Riikka Korte, and Andrew Lorent. (Received June 09, 2011)