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**Jang-Mei Wu.** *Sets of Constant distance from a Jordan curve.*

We study the  $\epsilon$ -level sets of the signed distance function to a planar Jordan curve  $\Gamma$ , and ask what properties of  $\Gamma$  ensure that the  $\epsilon$ -level sets are Jordan curves, or uniform quasicircles, or uniform chord-arc curves for *all* sufficiently small  $\epsilon$ . Sufficient conditions are given in term of a scaled invariant parameter for measuring the local deviation of subarcs from their chords. The chordal conditions given are sharp.

As an application, we will present concrete examples of quasisymmetric spheres constructed over quasidisks. (Received January 23, 2014)