

1099-37-311

Yuki Takahashi* (takahasy@uci.edu), Department of Mathematics, University of California, Irvine, CA 92697. *Products of Cantor sets and Spectral Properties of Labyrinth Model*. Preliminary report.

We prove that the product of two Cantor sets of large thickness is an interval in the case when one of them contains the origin. We apply this result to the Labyrinth model of a two-dimensional quasicrystal, where the spectrum is known to be the product of two Cantor sets, and show that the spectrum becomes an interval for small values of the coupling constant. We also consider the density of states measure of the Labyrinth model, and show that it is absolutely continuous with respect to the Lebesgue measure for most values of coupling constants. (Received February 10, 2014)