

Re: Open sets in \mathbb{R}^n

Source: <http://sci.tech-archive.net/Archive/sci.math/2008-06/msg00346.html>

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 - *Date:* Wed, 04 Jun 2008 07:48:17 -0400
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In article <slrng4cmf.kvf.tim@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Tim Little <tim@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

On 2008-06-04, Virgil <Virgil@xxxxxxxx> wrote:

How does one cover the interior of a square in \mathbb{R}^2 with the disjoint interiors of countably many circles plus a set of measure zero?

The obvious sequence of circles defined by "the largest possible circle within the remaining space" (with some rule for ties) should cover all but a set of measure zero.

– Tim

The remainder, known as the gasket of Apollonius, has Hausdorff dimension < 2 (in fact around 1 —— considerable calculation is required to see it is > 1). But dimension < 2 is enough to show Lebesgue measure zero.

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