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The wild, elusive singularities of the T -fractal surface, Part I.

This is Part I of a two-part talk on the T -fractal translation surface, a fractal analog of an interval exchange transformation and the geometry and topology of the elusive singularities of the T -fractal translation surface. In this talk, we will remind the audience of the basic definitions, construct the T -fractal translation surface from the so-called Quad T -surface. Such a construction takes advantage of the similarity inherent in the T -fractal. We will show that while the elusive points of the T -fractal billiard is a connected set, the corresponding elusive singularities of the T -fractal surface is a totally disconnected perfect set. (Received September 17, 2019)