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Labyrinth Fractal on a Convex Quadrilateral

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Abstract : Quadrilateral labyrinth fractals are a new type of fractals that are introduced in this paper. They belong to a unique class of fractals on any plane quadrilateral. The previously researched labyrinth fractals on the unit square and triangle inspire this form of fractal. This work describes how to construct a quadrilateral labyrinth fractal and looks at the circumstances in which it can be understood as the attractor of an iterated function system. Furthermore, some of its topological properties and the Hausdorff and box-counting dimensions of the quadrilateral labyrinth fractals are studied.

Keywords : fractals, labyrinth fractals, dendrites, iterated function system, Haus-Dorff dimension, box-counting dimension, non-self similar, non-self affine, connected, path connected
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