

This text is intended for the general public. The aim of this work is acquaint readers with foundations of the fractal geometry. The thesis explains important terminology, such as the coastline paradox or the fractal dimension. A great emphasis is placed on explaining the concept of the box-counting dimension. The thesis includes the construction methods of the L-systems, IFS, TEA and random fractals. In addition, it shows the use of fractal geometry in practice. The text is completed with illuminating figures drawn in most cases in Geogebra software and Wolfram Mathematica.