Absorbing systems and dimensions related to metric

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Abstract

The theory of absorbing systems (see, e.g., [G]) is a generalization of the theory of absorbing sets [BM]. The characterization results of the theory of absorbing systems have numerous applications in different parts of mathematics, in particular, in the dimension theory.

We consider the hyperspaces of compacta with various dimension properties in the euclidean spaces, Riemannian manifolds and the Hilbert spaces. In particular, we consider the Hausdorff dimension, the packing dimension, the fractal dimension, and the MinkowskiBouligand dimension. In some cases, the topology of systems determined by these dimensional functions can be described by means of the theory of absorbing systems in the Hilbert cube (Hilbert cube manifolds) and the Hilbert space.

We also consider the topology of the hyperspaces of self-similar sets and sub-self-similar sets [MV].

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References

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