

## The Fractal Implementations in Fashion Design

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### Abstract:

Fashion is one of the most important elements for human beings because of its diverse features that enable it to meet human needs and interact with them in an appropriate and comfortable way. Through the intellectual development of the modern era, the resulting integration of science and advanced technology, and the discovery of many modern sciences that explain numerous cosmic phenomena; fashion designers employed all these elements to create many modern innovative ideas. Fractal science is a modern science that has distinctive constructive basis, which made it an experimental approach and a creative feature in the field of visual and applied arts, through which the fashion designer can create innovative designs that include unconventional interactions between form and color.

The problem of this research is that the applications of fractal science in fashion design are not highlighted by fashion designers, despite their multiple use of it in many forms since old time, and that fashion designers did not link these techniques with fractal science. This research aims to shed light on the applications of fractal science in fashion design, The paper addresses the concept of fractal geometry, its types and characteristics, its association with nature, golden proportions, contemporary fashion design , fractal science and discussing sixteen ways of application of fractal science in fashion design from ancient times until now, according to the researcher's vision. One of the most important outcomes is the use of computer programs to expand the use of Fractal science in the design of fashion on a more advanced scale. Since the link between science, technology and fashion design through 3D printing and laser cutting, realizes the principle of self-similarity in many designs is a realization of the fractal science in fashion design.

### Keywords:

fractal ,Self-similarity ,Fashion Design