

# **Complexity: Definition and Reduction Techniques**

## **Some Simple Thoughts on Complex Systems**

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**Abstract.** Complexity can mean many things to many people. This paper presents an empirical, relativistic definition of complexity relating it to the system of interest, the behavior which is to be understood, and the capabilities of the viewer. A taxonomy of complexity is described based on this definition. Complexity and complication are compared and contrasted to provide some context for these definitions. Several methods of reducing or managing complexity are presented, namely abstraction, transformation, reduction and homogenization. Examples are given for each of these.

**Keywords:** System complexity, system complication, system complexity management

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