

## NONLINEARITY OF MILITARY CONFLICTS FROM THE PERSPECTIVE OF COMPLEXITY SCIENCE

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***Abstract:** The dynamic and interconnected relationships that arise in the study of military conflicts require, due to their high level of non-linearity, the use of sophisticated predictive modeling techniques. Thus, an acceptable estimate of the potential dangers that can significantly mark defeat or victory, becomes possible. In this study, we examine the cause-effect relationships of nonlinearity, nonlinear derivatives, nonlinear regression, and examine various emerging aspects of complexity science.*

***Keywords:** complexity science, system, conflict, nonlinear, war, hybrid, emergence, entropy.*

### **Introduction**

The science of complexity shows that there are social, physical or biological systems that can present behavioral phenomena that cannot be explained by conventional analyzes of the component parts of the systems. This emergent behavior occurs in many complex systems involving living organisms.

As an emerging research approach, complexity science is the study of a multivalent system. From the perspective of complexity science, in the research of complex systems, a non-linear appreciation of the various dynamic and interconnected relationships that appear in the operational complexity of conflicts, including military ones, is carried out.

In everyday speech, we say that an animate or inanimate system is complex when it is composed of many interacting components whose behavior or structure is difficult to understand. Sometimes a system can be structurally complex, like a mechanical clock, but behaves very simply, linearly. It is only a timing device and has a simple, regular and predictable

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