

# Complex Systems from the Perspective of Category Theory: I. Functioning of the Adjunction Concept

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## Abstract

We develop a category theoretical framework for the comprehension of the information structure associated with a complex system, in terms of families of partial or local information carriers. The framework is based on the existence of a categorical adjunction, that provides a theoretical platform for the descriptive analysis of the complex system as a process of functorial information communication.

**Keywords:** Complex Systems, Information Structures, Localization Systems, Coverings, Adjunction, Sheaves

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