

# Why Reliability Analysis is Difficult And Some Thoughts on How to Proceed

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## Abstract

Reliability analysis is challenged in three ways by uncertainty. Our understanding of the world and its uncertainties is evolving; indeterminism is an inherent part of the open universe in which we live; and learning from experience involves untestable assumptions. We discuss several concepts of robustness as tools for responding to these challenges. Using concepts from info-gap theory, we emphasize the non-probabilistic nature of major uncertainties facing the reliability engineer.