Systems Engineering under Uncertainty

Uncertainty is inherent in mechatronics. There are considerable to physical uncertainties about the outcomes. But there are also uncertainties about requirements which evolve was stakeholders learn more about the problems their solution will need to solve. There are many techniques to limit the amount of changes in requirements. But an alternate approach is to explicitly recognize the uncertainty in future requirements in the same way that physical uncertainties are recognized. This paper demonstrates how this can be done by scoring outcomes against requirements using Gaussian utility functions.