Design of Experiments in Chemical Engineering: A Practical

Design of Experiments (DOE) is one of the fundamental tools in the field of chemical engineering. It is a statistical method used to determine the effect of various factors on the response of a chemical process. DOE can be used to optimize processes, reduce costs, and improve product quality.

The basic idea behind DOE is to conduct experiments systematically, rather than randomly, to ensure that the results are statistically valid. This involves selecting a suitable number of experiments, controlling the factors that can affect the response, and analyzing the data to determine the relationships between the factors and the response.

DOE can be applied to a wide range of chemical processes, including reactions, separations, and transport phenomena. It is particularly useful when there are multiple factors that need to be considered, or when the relationship between the factors and the response is not well understood.

In this book, the authors provide a comprehensive introduction to DOE, covering topics such as experimental design, data analysis, and practical applications. The book is written in a clear and concise manner, making it accessible to both students and practitioners.

Overall, Design of Experiments in Chemical Engineering: A Practical is an excellent resource for anyone interested in improving chemical processes through statistical methods. It is highly recommended for chemical engineers, researchers, and students in the field.