DESCRIPTION

Written by a scientist and researcher with more than 25 years of experience in the field, this serves as a complete guide to catalyst activity loss during the hydroprocessing of heavy oils.

• Explores the physical and chemical properties of heavy oils and hydroprocessing catalysts; the mechanisms of catalyst deactivation; catalyst characterization by a variety of techniques and reaction conditions; laboratory and commercial information for model validations; and more

• Demonstrates how to develop correlations and models for a variety of reaction scales with step-by-step descriptions and detailed experimental data

• Contains important implications for increasing operational efficiencies within the petroleum industry

• An essential reference for professionals and researchers working in the refining industry as well as students taking courses on chemical reaction engineering

ABOUT THE AUTHOR

Jorge Ancheyta is Manager of Products for the Transformation of Crude Oil at the Mexican Institute of Petroleum (IMP), where he has worked since 1989. His work centers on the development and application of petroleum refining catalysts, kinetic and reactor
models, and process technologies mainly in catalytic cracking, catalytic reforming, middle distillate hydrotreating and heavy oils upgrading. He has been awarded the National Researcher Highest Distinction by the Mexican government and is a member of the Mexican Academy of Science. He is the author of five other books, including *Modeling and Simulation of Catalytic Reactors for Petroleum Refining* (Wiley, 2011). He has also been guest editor of various international journals.