

Preface

Petroleum Radiation Processing fills an information gap, providing systematic descriptions of the fundamentals of radiation-induced cracking reactions in hydrocarbons. It analyzes the basic experiments that have brought about the rapid development of radiation technology for petroleum radiation processing during the last decades. The book emphasizes high-viscous oil feedstocks that are difficult to process by conventional methods—such as heavy and high-paraffinic crude oil, fuel oil, and bitumen. It helps readers understand the mechanisms and kinetics of low-temperature radiation cracking. The book addresses the application of promising radiation methods for solving critical environmental issues, such as oil desulfurization and regeneration of used lubricants and other used oil products. Examining experimental data as well as theoretical and technical approaches, it summarizes research progress in the field of petroleum radiation processing, providing a useful reference on the theory and technology of hydrocarbon radiation processing for scientists, researchers, and students.

Editor