CONTENTS

		Page
Prefac Contr	ce ibutors	iii ix
1.	A Unified Theory of Periodic and Promotion Effects in Transition Metal Sulfide	
	Hydrodesulfurization Catalysts	1
2.	A Review of Some Specific Phases as Possible Active Hydrotreating Constituents	17
3.	Catalytic Sites and Heterolytic Reaction Mechanisms in Hydrotreating Catalysis	29
4.	Microstructural Characterization of Molybdenum Disulfide and Tungsten Disulfide Catalysi	
5.	STM and AFM Studies of Transition Metal Chalcogenides	71
6.	HREM Characterization of MoS ₂ , MoS ₂ : Co, and MoS ₂ :Fe	85
7.	On the Identification of "Co-Sulfide" Species in Sulfided Supported Co and CoMo Catalyst	s 95
8.	Properties of MoS ₂ -Based Hydrotreating Catalysts Modified by Electron Donor or Electron	
	Acceptor Additives (P, Na, Cs, F)	115
9.	Modeling HDS Catalysis with sulfido Bimetallic Clusters	129
10.	Evidence for H ₂ S as Active Species in the Mechanism of Thiopene Hydrodesulfurization	147
11.	Role of the Sulfiding Procedure on Activity and Dispersion of Nickel Catalysts	159
12.	Ruthenium Sulfide Based Catalysts	169
13.	Comparison of sulfided CoMo Al ₂ O ₃ and NiMo/ Al ₂ O ₃ Catalysts in Hydrodesulfurization of	•
	Gas Oil Fractions and Model Compounds	183
14.	Competitive Coversion of Nitrogen and Sulfur compounds in Naphtha with Transition	
	Metal Sulfide Catalysts	197
15.	The Effect of Additives and Impregnation Stabilizers on Hydrosulfurization Activity	211
16.	Molten Salt Preparation of Mixed Transition Metals on Zirconia : Application to	
	Hydrotreating Reactions	235
17.	The Role of Hydrogen in the Hydrogenation and Hydrogenolysis of Aniline on the Nickel	
	Single Crystal Surfaces: Its Implication on the Mechanisms of HDN Reactions	253
18.	Hydrodenitrogenation of Carbozole on an Alumina-Supported Molybdenum Nitride	
	Catalyst	263
19.	Aromatics Hydrogenation over Alumina Supported Mo and NiMo Hydrotreating Catalysts	277
20.	Applications of Pillared and Delaminated Interlayered Clays as Supports for Hydrotreating	
	Catalysts	291
21.	Catalytic Hydrotreating with Pillared Synthetic Clays	313
22.	Residual Oil Hydrotreating Catalyst Rejuvenation by Leaching of Foulkant Metals : Effects	
	of Metal Leaching on Catalyst Characteristics and Performance	327
23.	Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and Its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service and Its Effective Characterization of Coke on Spent Resid Catalyst from Ebullating Bed Service Characterization of Coke on Spent Residual S	
2.4	On Activity	337
24.	Microbial Removal of Organic Sulfur from Fuels: A Review of Past and Present Approache	s345
T., 1.		261
Index		361