1. Record Nr. UNINA9910830867603321 Autore Tao Franklin Titolo Application of Ambient Pressure X-Ray Photoelectron Spectroscopy to Catalysis Newark:,: John Wiley & Sons, Incorporated,, 2023 Pubbl/distr/stampa ©2024 **ISBN** 1-119-84548-3 1-119-84545-9 Edizione [1st ed.] Descrizione fisica 1 online resource (286 pages) Disciplina 543.62 Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Cover -- Title Page -- Copyright Page -- Contents -- Preface --Nota di contenuto Chapter 1 From Surface of Model Catalyst in UHV to Surface of Nanoparticle Catalyst During Catalysis -- References -- Chapter 2 Application of XPS: from Surface in UHV to Surface in Gas or Liquid Phase -- 2.1 Origin of X-ray Photoelectron Spectroscopy -- 2.2 Applications of XPS to Study Surface in High Vacuum -- 2.3 Applications of XPS to Study Sample in Gas Phase -- 2.4 Applications of XPS to Study Sample in Liquid Phase -- 2.4.1 XPS Studies of Surface of Nanoparticle Catalyst in Static Liquid -- 2.4.2 XPS Studies of Surface of Nanoparticle Catalyst in Flowing Liquid -- 2.4.3 XPS Study of Flowing Gas with a Pressure of 1 atm or Higher -- References -- Chapter 3 Fundamentals of X-ray Photoelectron Spectroscopy -- 3.1 Principle of XPS -- 3.2 Generation of X-ray -- 3.3 Excitation of Photoelectron and Chemical Shift -- 3.3.1 Initial State Effect -- 3.3.2 Final State Effect -- 3.3.2.1 Core Hole-Induced Polarization Final State Effect -- 3.3.2.2 Core Hole-Induced Rearrangement Final State Effect -- 3.4 Measurements of Energy of Photoelectrons -- 3.5 Measurements of Intensity of Photoelectrons -- References -- Chapter 4 Instrumentation of XPS -- 4.1 Regular X-ray Source -- 4.2 X-ray Source with a Monochromator -- 4.3 Energy Analyzer -- 4.4 Detector --References -- Chapter 5 Significance and Challenge of Studying Surface

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