Principles of Combustion

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Wiley-Interscience, 2005. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Preface.Preface to the First Edition.Introduction.Importance of Combustion for Various Applications.Related Constituent Disciplines for Combustion Studies.General Method of Approach to Solving Combustion Problems.General Objectives of Combustion Modeling.Classification of Combustion Problems.General Structure of a Theoretical Model.Governing Equations for Combustion Modeling (Conservation & Transport Equations).Some Common Assumptions Made In Combustion Models.Several Basic Definitions1. Review of Chemical Thermodynamics.Nomenclatures.1. Brief Statement of Thermodynamic Laws.2. Equation of State.3. Conservation of Mass.4. The First Law of Thermodynamics; Conservation of Energy.5. The Second Law of Thermodynamics.5. 1 Equilibrium Thermodynamics.5. 2 Non-equilibrium Thermodynamics.6. Criteria for Equilibrium.7. Conservation of Atomic Species.8. Various Methods for Reactant-Fraction Specification.8.1 Mole and Mass Fractions.8.2 Fuel-Oxidant and Fuel-Air Ratios.8.3 Equivalence Ratio.8.4 Mixture Fraction.9. Standard Enthalpies of Formation.10. Thermochemical Laws.11. Relationship Between Bond Energies and Heats of Formation.12. Heats of Reaction for Constant-Pressure and Constant-Volume Combustion.12.1 Constant-Pressure Combustion.12.2 Constant-Volume Combustion.13. Energy Balance Considerations for Flame Temperature Calculations.14. Equilibrium Constants.15. Real-Gas Equations of State and Fugacity Calculation.16. More Complicated Dissociation in the Combustion of

Reviews

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