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gases; 4.1 INTRODUCTION; 4.2 LAMINAR FLAME STRUCTURE; 4.3 LAMINAR FLAME SPEED; 4.4 STABILITY LIMITS OF LAMINAR FLAMES; 4.5 FLAME PROPAGATION THROUGH STRATIFIED COMBUSTIBLE MIXTURES; 4.6 TURBULENT REACTING FLOWS AND TURBULENT FLAMES; 4.7 STIRRED REACTOR THEORY; 4.8 FLAME STABILIZATION IN HIGH-VELOCITY STREAMS; 4.9 COMBUSTION IN SMALL VOLUMES; PROBLEMS; REFERENCES; Chapter 5 - Detonation; 5.1 INTRODUCTION; 5.2 DETONATION PHENOMENA
5.3 HUGONIOT RELATIONS AND THE HYDRODYNAMIC THEORY OF DETONATIONS
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PARAMETERS; 5.7 DETONATIONS IN NONGASEOUS MEDIA; PROBLEMS; REFERENCES; Chapter 6 - Diffusion flames; 6.1 INTRODUCTION; 6.2 GASEOUS FUEL JETS; 6.3 BURNING OF CONDENSED PHASES; 6.4 BURNING OF DROPLET CLOUDS; 6.5 BURNING IN CONVECTIVE ATMOSPHERES; PROBLEMS; REFERENCES; Chapter 7 - Ignition; 7.1 CONCEPTS
7.2 CHAIN SPONTANEOUS IGNITION
7.3 THERMAL SPONTANEOUS IGNITION; 7.4 FORCED IGNITION; 7.5 OTHER IGNITION CONCEPTS; PROBLEMS; REFERENCES; Chapter 8 - Environmental combustion considerations; 8.1 INTRODUCTION; 8.2 THE NATURE OF PHOTOCHEMICAL SMOG; 8.3 FORMATION AND REDUCTION OF NITROGEN OXIDES; 8.4 SOX EMISSIONS; 8.5 PARTICULATE FORMATION; 8.6 STRATOSPHERIC OZONE; PROBLEMS; REFERENCES; Chapter 9 - Combustion of nonvolatile fuels; 9.1 CARBON CHAR, SOOT, AND METAL COMBUSTION; 9.2 METAL COMBUSTION THERMODYNAMICS; 9.3 DIFFUSIONAL KINETICS; 9.4 DIFFUSION-CONTROLLED BURNING RATE
9.5 PRACTICAL CARBONACEOUS FUELS (C. R. SHADDIX)

Sommario/riassunto

Throughout its previous four editions, Combustion has made a very complex subject both enjoyable and understandable to its student readers and a pleasure for instructors to teach. With its clearly articulated physical and chemical processes of flame combustion and smooth, logical transitions to engineering applications, this new edition continues that tradition. Greatly expanded end-of-chapter problem sets and new areas of combustion engineering applications make it even easier for students to grasp the significance of combustion to a wide range of engineering practice, from transportation to
