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2.4. Flow in a plane channel insulated on one side and heated at uniform temperature on the opposite side2.4.1. Description of the problem; 2.4.2. Guidelines; 2.4.3. Solution; Chapter 3. Forced Convection in Boundary Layer Flows; 3.1. Hydrodynamics; 3.1.1. Prandtl equations; 3.1.2. Classic results; 3.2. Heat transfer; 3.2.1. Equations of the thermal boundary layer; 3.2.2. Scale analysis; 3.2.3. Similarity temperature profiles; 3.3. Integral method; 3.3.1. Integral equations; 3.3.2. Principle of resolution using the integral method; 3.4. Heated jet nozzle; 3.4.1. Description of the problem
3.4.2. Solution3.5. Asymptotic behavior of thermal boundary layers; 3.5.1. Description of the problem; 3.5.2. Guidelines; 3.5.3. Solution; 3.6. Protection of a wall by a film of insulating material; 3.6.1. Description of the problem; 3.6.2. Guidelines; 3.6.3. Solution; 3.7. Cooling of a moving sheet; 3.7.1. Description of the problem; 3.7.2. Guidelines; 3.7.3. Solution; 3.8. Heat transfer near a rotating disk; 3.8.1. Description of the problem; 3.8.2. Guidelines; 3.8.3. Solution; 3.9. Thermal loss in a duct; 3.9.1. Description of the problem; 3.9.2. Guidelines; 3.9.3. Solution
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4.7. Heat transfer in a stagnation plane flow. Step-wise heating at uniform flux

Sommario/riassunto

Each chapter begins with a brief yet complete presentation of the related topic. This is followed by a series of solved problems. The latter are scrupulously detailed and complete the synthetic presentation given at the beginning of each chapter. There are about 50 solved problems, which are mostly original with gradual degree of complexity including those related to recent findings in convective heat transfer phenomena. Each problem is associated with clear indications to help the reader to handle independently the solution. The book contains nine chapters including laminar external and inter