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2.3.6 Hydraulic Jump in Rectangular Channels; 2.3.7 Choking and Momentum Principle; Chapter 3 Normal flow; 3.1 Flow resistance; 3.1.1 Boundary layer and flow resistance; 3.1.2 The Darcy-Weisbach equation; 3.1.3 The Chezy equation; 3.1.4 The Manning formula; 3.2 Normal flow equation; 3.3 Normal depth calculations in uniform channels; 3.4 Normal depth calculations in grass-lined channels; 3.5 Normal depth calculations in riprap channels
3.6 Normal flow in composite channels3.7 Normal flow in compound channels; Chapter 4 Gradually-varied flow; 4.1 Classification of channels for gradually-varied flow; 4.2 Classification of gradually-varied flow profiles; 4.3 Significance of Froude number in gradually-varied flow calculations; 4.4 Qualitative determination of expected gradually-varied flow profiles; 4.5 Gradually-varied flow computations; 4.5.1 Direct step method; 4.5.2 Standard step method; 4.6 Applications of gradually-varied flow; 4.6.1 Locating hydraulic jumps; 4.6.2 Lake and channel problems; 4.6.3 Two-lake problems
4.6.4 Effect of choking on water surface profile4.7 Gradually-varied flow in channel systems; 4.8 Gradually-varied flow in natural channels; Chapter 5 Design of open channels; 5.1 General design considerations; 5.2 Design of unlined channels; 5.2.1 Maximum permissible velocity method; 5.2.2 Tractive force method; 5.2.3 Channel bends; 5.3 Design of channels with flexible linings; 5.3.1 Design of channels lined with vegetal cover; 5.3.2 Design of riprap channels; 5.3.3 Temporary flexible linings; 5.4 Design of rigid boundary channels; 5.4.1 Experience curve approach
5.4.2 Best hydraulic section approach

Sommario/riassunto

Open Channel Hydraulics is written for undergraduate and graduate civil engineering students, and practicing engineers.Written in clear and simple language, it introduces and explains all the main topics required for courses on open channel flows, using numerous worked examples to illustrate the key points.With coverage of both introduction to flows, practical guidance to the design of open channels, and more advanced topics such as bridge hydraulics and the problem of scour, Professor Akan's book offers an unparalleled user-friendly study of this important subject·Clea