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Autore	Dey Subhasish
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Sommario/riassunto	This revised second edition of the book presents an improvement of the original version in terms of recent research, corrections, and outline. The state of the art in fluvial hydrodynamics can be examined only through a careful exploration of the theoretical development and applied engineering technology. This second, updated edition focuses, since most up-to-date research findings in the field are presented, on the research aspects that involve a comprehensive knowledge of sediment dynamics in turbulent flows. It begins with the fundamentals of hydrodynamics and particle motion followed by turbulence characteristics related to sediment motion. Sediment dynamics are described from a classical perspective by applying the mean bed shear approach and additionally incorporating a statistical description for the

role of turbulence. It is intended to design as a course textbook in graduate / research level and a guide for the field engineers as well, keeping up with modern technological developments. One of the most important additions is that at the end of each chapter, varieties of problems were given. Therefore, as a simple prerequisite, the background of the readers should have a basic knowledge in hydraulics in undergraduate level and an understanding of fundamentals of calculus.