

1. Record Nr.	UNINA9910460571403321
Autore	Sengupta Tapan Kumar <1955->
Titolo	Instabilities of flows and transition to turbulence // by Tapan K. Sengupta
Pubbl/distr/stampa	Boca Raton, FL : , : CRC Press, an imprint of Taylor and Francis, , 2012
ISBN	0-429-06648-1 1-4398-7945-1
Edizione	[First edition.]
Descrizione fisica	1 online resource (522 p.)
Disciplina	532/.0527
Soggetti	Turbulence Transition flow Stability Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Front Cover; Contents; Symbol Description; List of Figures; List of Tables; Preface; 1. Introduction to Instability and Transition; 2. Computing Transitional and Turbulent Flows; 3. Instability and Transition in Flows; 4. Bypass Transition: Theory, Computations, and Experiments; 5. Spatio-Temporal Wave Front and Transition; 6. Nonlinear Effects: Multiple Hopf Bifurcations and Proper Orthogonal Decomposition; 7. Stability and Transition of Mixed Convection Flows; 8. Instabilities of Three-Dimensional Flows; 9. Analysis and Design of Natural Laminar Flow Airfoils; 10. Epilogue 11. Selected ProblemsBibliography
Sommario/riassunto	Addressing classical material as well as new perspectives, Instabilities of Flows and Transition to Turbulence presents a concise, up-to-date treatment of theory and applications of viscous flow instability. It covers materials from classical instability to contemporary research areas including bluff body flow instability, mixed convection flows, and application areas of aerospace and other branches of engineering. Transforms and perturbation techniques are used to link linear instability with receptivity of flows, as developed by the author.

