1. Record Nr. UNINA9911061732103321

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Titolo	Proceedings of the 10th IUTAM Symposium on Laminar-Turbulent Transition : IUTAM Laminar-Turbulent Transition; September 2–6, 2024, Nagano, Japan / / edited by Kentaro Kato, Ayumu Inasawa, Masaharu Matsubara
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2026
ISBN	981-9698-29-4
Edizione	[1st ed. 2026.]
Descrizione fisica	1 online resource (481 pages)
Collana	IUTAM Bookseries, , 1875-3493 ; ; 44
Altri autori (Persone)	InasawaAyumu MatsubaraMasaharu
Disciplina	530.10285
Soggetti	Mathematical physics Computer simulation Mathematics - Data processing Fluid mechanics Physics Multibody systems Vibration Mechanics, Applied Computational Physics and Simulations Computational Science and Engineering Engineering Fluid Dynamics Classical and Continuum Physics Multibody Systems and Mechanical Vibrations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Turbulent spot measurements: wall-pressure and streamwise-velocity correlation -- DNS Study of Flow Mechanism Contributing to Drag Reduction over Distributed Micro Roughness -- Transition Control for Separated Flow over Airfoil by Periodic Body Forcing -- Axial flow influence on boundary-layer transition on rotating slender cones -- Numerical investigations of the nonlinear stages of hypersonic boundary-layer transition for an ogive geometry -- Instability,

transition and turbulence on rotating disks and cones - Quo vadis? -- Investigation of Turbulent Wedge Intermittency with Time-Resolved Temperature-Sensitive Paint -- Boundary-layer instability characteristics of supersonic and hypersonic flows over rotating cones -- Interaction of Crossflow Modes with Forward-Facing Steps: Insights Gained from DNS -- Numerical investigations of stability and transition for a blunt swept flat plate at Mach 10 -- Numerical and Experimental Investigations of Transition in a Laminar Separation Bubble -- Experimental study on the mechanism of lateral growth of developed turbulent wedge -- Experimental Study of the Instability Amplitude Effect on Critical Step Heights in Crossflow-Dominated Transition -- Flow state transition process and oblique pattern of Taylor–Couette–Poiseuille flow at a medium cylinder ratio -- New perspectives on instability of laminar separation bubbles: have we been missing something important? -- Stability analysis of recirculation bubble flow in a viscoelastic fluid -- Linear and nonlinear response of high-speed boundary layers to continuous stochastic forcing -- Experimental investigation of bluntness effects on transition on a 7-degree blunted cone -- Simulation of K-type and H-type Transition Using the Nonlinear One-Way Navier-Stokes Approach -- Generative machine-learning methods to predict the wake of a distributed roughness patch in a hypersonic boundary-layer flow -- Airfoil trailing-edge tonal noise reduction by roughness elements -- Numerical and experimental study on the freestream-turbulence dependency of turbulent transition processes on a swept flat plate -- Computations of Turbulent Transition in Hypersonic Boundary Layer with Reduced Artificial Dissipation -- Experimental investigation on boundary-layer streaks induced by grid-generated free-stream turbulence -- Global stability analysis of installed jets -- Infrared thermographic evaluation of wall-temperature streak in the free-stream turbulence transition scenario -- Adjoint-Based Approach for Prediction of Non-Modal Growth in Spatially Evolving Flows -- Interscale energy transfer in a transitional swept-wing boundary layer...

Sommario/riassunto

The 10th IUTAM Symposium on Laminar-Turbulent Transition, held in September 2024 at Shinshu University in Nagano, Japan, attracted nearly 135 participants from 18 countries across five continents and featured more than 100 presentations in addition to keynote and plenary lectures by eight internationally renowned invited speakers. Topics included high-speed flows, boundary layer transition, cross-flow instability, free-stream turbulence, roughness, separation, general instabilities, and complex flows. The presentations were a well-balanced mix of theoretical, numerical, and experimental approaches that are necessary to advance the field of instability and transition. That experiments still have a role to play is especially true for boundary layer transition and separation at all speed ranges, since non-ideal boundary conditions (such as roughness, free-stream turbulence, sound, heat transfer, etc.) that are hard to accurately model play an important role for how disturbances enter into and develop in the system. This book contains selected contributions representing a wide range of disciplines presented at the symposium. Researchers studying transition to turbulence and engineers who must deal with this problem, e.g. those in the aeronautical field, will easily find meaningful ideas and knowledge in these proceedings.