

1. Record Nr.	UNINA9910495204603321
Autore	Liu T (Tianshu)
Titolo	Pressure and Temperature Sensitive Paints / / by Tianshu Liu, John P. Sullivan, Keisuke Asai, Christian Klein, Yasuhiro Egami
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-68056-8
Edizione	[2nd ed. 2021.]
Descrizione fisica	1 online resource (552 pages)
Collana	Experimental Fluid Mechanics, , 2197-9510
Disciplina	667.6
Soggetti	Coatings Tribology Corrosion and anti-corrosives Fluid mechanics Thermodynamics Heat engineering Heat transfer Mass transfer Automotive engineering Corrosion Engineering Fluid Dynamics Engineering Thermodynamics, Heat and Mass Transfer Automotive Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Basic Photophysics -- Physical Properties of Paints -- Radiative Energy Transport and Intensity-Based Methods -- Image and Data Analysis Techniques -- Lifetime-Based Methods -- Uncertainty -- Time Response -- Applications of Pressure Sensitive Paint -- Applications of Temperature Sensitive Paint.
Sommario/riassunto	This new edition describes pressure and temperature sensitive paints (PSP and TSP) in global surface pressure and temperature measurements in aerodynamics and fluid mechanics. The book includes the latest progress in paint formulations, instrumentation, and steady

and unsteady aerodynamic measurements in various facilities including low-speed, transonic, supersonic and hypersonic wind tunnels. The updated technical aspects of PSP and TSP in the book will be useful for students and researchers in experimental aerodynamics and fluid mechanics. Explains the physical principles of PSP and TSP, Describes the technical aspects of instrumentation including calibration, illumination, detection, and data/image processing, Discusses the measurement uncertainty of PSP and TSP, Describe PSP and TSP measurements in various facilities in a broad range of applications.

---