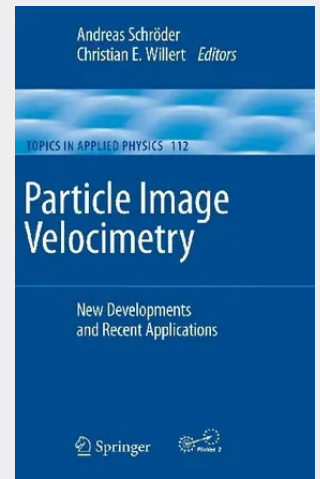


Particle Image Velocimetry

New Developments and Recent Applications

Particle Image Velocimetry (PIV) is a non-intrusive optical measurement technique which allows capturing several thousand velocity vectors within large flow fields instantaneously. Today, the PIV technique has spread widely and differentiated into many distinct applications, from micro flows over combustion to supersonic flows for both industrial needs and research. Over the past decade the measurement technique and the hard- and software have been improved continuously so that PIV has become a reliable and accurate method for "real life" investigations. Nevertheless there is still an ongoing process of improvements and extensions of the PIV technique towards 3D, time resolution, higher accuracy, measurements under harsh conditions and micro- and macroscales. This book gives a synopsis of the main results achieved during the EC-funded network PivNet 2 as well as a survey of the state of the art of scientific research using PIV techniques in different fields of application.

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