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Editorial

11th International Symposium on Particle Image Velocimetry (PIV 2015)

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The particle image velocimetry (PIV) technique for measuring fluid velocity fields in flow domains has evolved into a primary measurement technique for studying complex flow phenomena across a broad scope of scientifically and societally relevant applications. With this rapid development and growing implementation of PIV, the International Symposium on Particle Image Velocimetry has become a key venue for the dissemination of PIV method developments and novel implementations of these methods to elucidate flow physics. The most recent installation of this meeting, the 11th International Symposium on Particle Image Velocimetry (PIV 2015), was held in Santa Barbara, California on September 14–16, 2015. This special feature of *Measurement Science and Technology* contains a selection of contributions from PIV2015 that focus upon new advancements of PIV measurements and analysis techniques.

The PIV technique combines the view of the instantaneous velocity pattern (in the spirit of flow visualization) with *quantitative* velocity data, oftentimes with sufficient temporal resolution to capture the dominant flow dynamics. Thus, PIV data is often utilized to support the development of numerical or phenomenological models of complex flow phenomena as well as for the validation of computational simulations of such flows. In this latter regard, the fidelity of the PIV data defines the reliability of the validation performed. Thus, PIV 2015 served as a venue for dissemination of the latest measurements and analysis advances meant to improve the quality and resolution of the data as well as more robust quantification of the inherent uncertainties associated with PIV data sets. Many of the conference contributions focused on improving the quantity and/or quality of data acquired (increased dimensionality, improved spatial and temporal resolution, new measurement methodologies) [3, 4, 8–11, 17, 19, 21], development of more accurate and/or efficient data reduction methodologies [1, 6, 7, 13–16, 22], and the development of robust uncertainty quantification methods meant to more objectively assess and document measurement uncertainties for verification and validation purposes [2, 5, 12, 18, 20]. The contributions included in this special feature span this broad spectrum of measurement and analysis advances, and we wish to thank all contributors for their willingness to publish their work in *Measurement Science and Technology*.

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