〈総　　説〉

TSTOF測定法に関する技術報告書：第一部 ―技術的基礎、歴史的発展、および他のレーザー測定法との比較

Technical Report on the TSTOF Measurement Method: Part I ―Technical Fundamentals, Historical Development and Comparison with Other Laser-Based Measurement Methods

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Abstract

TSTOF stands for Time-Shift Time-of-Flight measurement method, which is used for the characterization of individual dynamic particles - such as droplets in droplet clouds or particles in flows - in different industrial applications. In the last 15 years, this method has gained in importance and appreciated in particular for its ease of use and compact construction. Thus far however, there exists no technical report yet that is exclusively and systematically describing the TSTOF technique. In the scientific literature, the method is commonly described in the context of specific application cases - either theoretical or experimental in nature, but rarely in its entirety. Often citations are incomplete or do not point to scientifically validated sources. Current technical advances are generally not given sufficient consideration, whereas non-scientific publications often pick up technical elements uncritically and without reference to verifiable data. This report describes the technical fundamentals of the TSTOF measurement method, describes its historical development, and compares it systematically with established laser-based methods.

キーワード：TSTOF、液滴、測定技術、レーザー
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