

Poster presentation

A New Method and Device Concept for Real-Time, In-Situ Evaluation of Microplastics in Water

First Results from Laboratory PoC Experiments

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Abstract:

Traditional methods for evaluating microplastics in water environments are hindered by complexity, accuracy issues, and inefficiency in processing large volumes of water within realistic timeframes and costs. This patented approach introduces a novel measurement technique—multispectral transmission evaluation using specifically prepared pulsed, coherent emission in the visible spectrum. This emission interacts with water and single plastic particles (LDPE, HDPE, and PP) of various sizes and forms as they pass through the active sensor volume. This work presents the theoretical foundation of the method, and the initial results obtained from laboratory experiments conducted in 2024.

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