PURDUE INNOVATES | Office of Technology Commercialization

Axially-offset Differential Interference Contrast Correlation Spectroscopy (ADIC-CS)

A fast, accurate, and adaptable noninvasive spectroscopy technique (ACID-CS) enables enhanced measurement of nanoparticle size distributions in fluidic mediums for research and chemical analysis.

Researchers at Purdue University have developed a noninvasive, label-free technique to quantify particle size distributions in suspensions, described as axially offset differential interference contrast correlation spectroscopy (ACID-CS). ACID-CS is more sensitive than traditional spectroscopy techniques such as dynamic light scattering, and unlike current technologies avoids time-dependent intensity fluctuations. ACID-CS enables accurate measurements of nanoparticles in fluidic mediums. The technique was demonstrated with silica beads of known size and will be useful for a myriad of scientific research applications, such as in protein nanocrystal suspensions. ACID-CS is adaptable for existing microscopes or can be readily implemented as its own apparatus.

Advantages:

-Fast

-Accurate

-Adaptable

Potential Applications:

-Research

-Chemical Analysis

TRL: 4

Intellectual Property:

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Materials Science & Nanotechnology/Nanomaterial Characterization & Imaging Tools

Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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