

Method for Using Polarization Gating to Measure a Scattering Sample

Disclosure Number

201202898

Technology Summary

The invention relates to a method for determining the clarity of optically dense, clear, or scattering samples, which include: liquid, colloid, gel, emulsions, viscous and non-viscous, or clear optical components. Optical characterization of samples by analytical techniques such as refractive index (RI), is impaired by scattering. In particular, multiple scattering is known to cause both spatial and temporal decorrelations in propagating sample-interrogating optical radiation. Scattering visibly changes sample appearance in terms of clarity and, in certain cases, color. Turbidity and haze (both of which are fluid clarity measures) are monitored to establish water and visual air quality. In the food, pharmaceutical, and biotechnology industries, where bio-logical samples are processed en masse, the ability to accurately characterize scattering samples and measure their concentration is critical to maximizing yields and for quality control and assurance in production processes.

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