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Experimental investigation of nanomaterial settling in hydrocarbon fuel

Abstract: The combustion of hydrocarbon-nanomaterial suspensions has long been of interest to the combustion community. These suspensions usually consist of a small quantity of nanomaterial, usually 5% or less by mass, combined with a common hydrocarbon fuel. These suspensions have the potential to offer enhanced combustion characteristics and better fuel economy, however the practicality of these hydrocarbon-nanomaterial suspensions is dependent on the rate at which these suspensions separate. This research used a new method for tracking the settling of the suspension in a quantitative and objective manner without disturbing the solution. This research studied the stability of hydrocarbon-nanomaterial suspension at different load percentages. It is predicted that this research will be a building block in future analysis of hydrocarbon-nanomaterial suspensions.