

Development of Optical Property Based Oil Quality Analyzer

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This article introduces a highly sensitive, rapid and low-cost sensing method for online analysis of engine oil quality and predicts the exact time of oil expiration. The multi-mode optical fiber (MOF) is tapered with great accuracy in measuring the oil refractive index values in engines. In this research, viscosity is considered as the most critical parameter of the engine oil, which contributes to the oil degradation. By comparing the viscosity values of the oil and refractive index values of the oil, the exact quality of the oil is predicted.

Keywords: *refractive index, viscosity, optical properties, oil quality, engine oil*