



## **DIESEL PARTICULATE ANALYSIS USING SEM-EDX AND LASER-INDUCED BREAKDOWN SPECTROSCOPY**

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*Abstract- In this paper, composition analysis using scanning electron microscopy/energy-dispersive X-ray spectroscopy analysis (SEM-EDX) and laser-induced breakdown spectroscopy (LIBS) for particulate matter in diesel exhaust is presented. Conventionally, scanning mobility particle sizer (SMPS) has been widely used to obtain particle size distribution of the suspended particles. However, real-time analysis of the composition of diesel particulate matter is difficult because of the small sized particles and rapidly exhausted. The particulates are less than a few micrometers in diameter. Real-time chemical analysis of the very small sized particles emitted from diesel fuels is facilitated with LIBS technique.*

**Index terms:** LIBS, particulate matter, aerosol.