SLOAN AUTOMOTIVE LABORATORY

Detailed Characterization of Lubricant-Derived Ash-Related Species in Diesel Exhaust and Aftertreatment Systems

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Poster Location - P 25

Ontario Exhibit Hall

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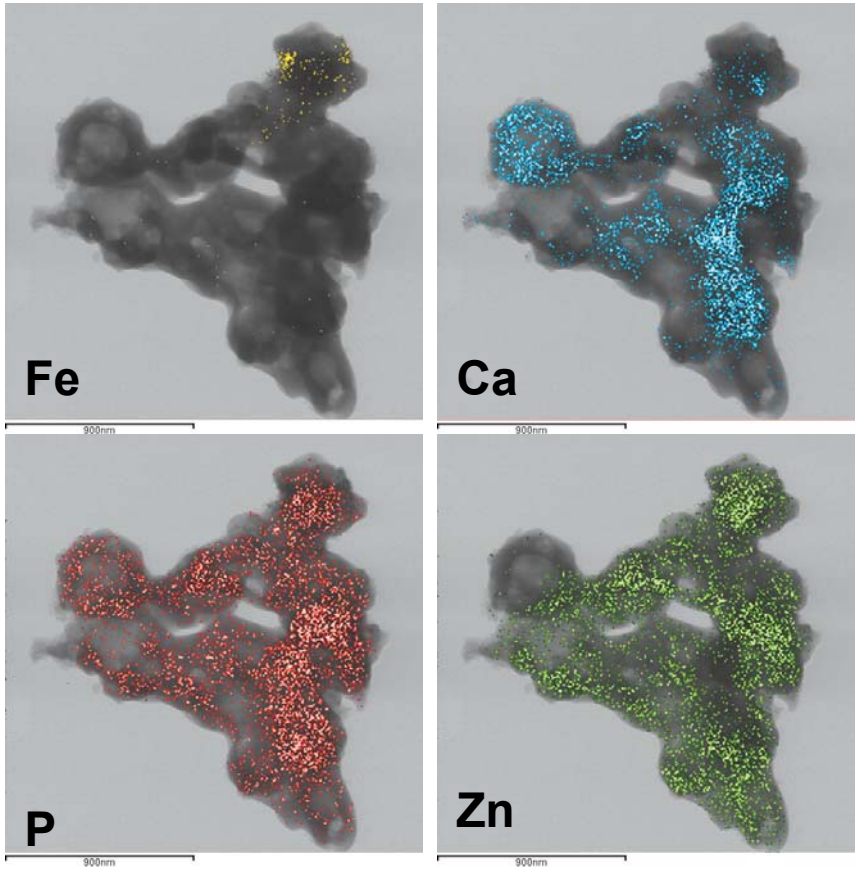
Ash-Related Species Characterization

OBJECTIVE: Chemical and physical characterization of ash-related compounds (S,P, metallic), their sources, and fate through diesel exhaust and aftertreatment systems.



Ash Elemental Mapping via STEM

2002 Cummins ISB 300 with DPF

Measurements and Analysis

1. **Sulfur Accounting**
   Gaseous SO_2 vs. Sulfates
2. **Particulate Phase (PM)**
   STEM, SEM-EDS, ICP, XRF, TGA
3. **Ash**
   STEM, HR-TEM, SEM