

Executive Statement:

This technology introduces a portable, highly accurate system for real-time aerosol composition monitoring, revolutionizing particulate air pollution analysis.

Technology Overview:

This invention combines a gas chromatograph with a time-of-flight mass spectrometer to provide rapid, reliable chemical analysis of aerosols. Its design focuses on portability and reduced maintenance needs, making it ideal for in-field aerosol composition monitoring. The system significantly improves upon traditional methods by enhancing analysis speed, accuracy, and reliability, particularly in remote or challenging environments.

Key Advantages:

- Enhanced speed and reliability of chemical analysis
- Compact and portable design suitable for remote field applications
- Reduced maintenance requirements compared to ion trap technologies
- Improved quantitation and analysis accuracy
- Less susceptible to contamination and frequent cleanings

Problems Addressed:

- Slow and unreliable aerosol chemical composition analysis
- High maintenance and susceptibility to contamination of traditional ion trap systems
- Difficulty in deploying analysis equipment in remote or challenging environments

Market Applications:

- Environmental monitoring and research
- Air quality assessment and management
- Atmospheric science studies
- Industrial emission monitoring
- Public health and safety regulation compliance