Method For Rapid In Situ Detection Of Ammonia

Tech ID: 32326 / UC Case 2020-658-0

BRIEF DESCRIPTION

This invention, a simple and robust method for ammonia detection, offers high-speed in situ quantification of ammonia concentrations with high sensitivity. The ammonia detection system does not require complex instrumentation, analysis, or labeling, which would allow for widespread adoption in chemistry-based fields and surrounding disciplines.

SUGGESTED USES

• High-speed, in situ detection of ammonia concentration

FEATURES/BENEFITS

• Real-time readings: capacity for fast, real-time chemical characterization in situ.
• Cleanliness: ammonia detection is extremely localized, preventing contamination from environment.
• Reusability: system can be used multiple times.
• Simplicity: Raman substrates are commercially available – would not have to rely on complex manufacturing.

TECHNOLOGY DESCRIPTION

The researchers at the University of California, Irvine invented a surface-enhanced Raman non-contact technique, which operates without having to alter the sample and allows for high speed in situ ammonia detection. Unlike other ammonia tests, this UCI technology offers a reusable approach and minimizes contamination from the environment.

STATE OF DEVELOPMENT

Prototype has been developed and validated for efficacy, achieving a sensitivity of 10 ppm with a 1 second integration time.

PATENT STATUS

<table>
<thead>
<tr>
<th>Country</th>
<th>Type</th>
<th>Number</th>
<th>Dated</th>
<th>Case</th>
</tr>
</thead>
</table>

Additional Patent Pending
RELATED CASES
2020-658-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS
• Method For Liquid-To-Solid Phase Separation Of Uranium And Uranyl Contaminant From Various Solutions
• Method For Mid-Infrared Imaging In Si-Based Cameras Through Non-Degenerate Two-Photon Absorption
• Acid-Free Synthesis of Electrocatalyst Technology