

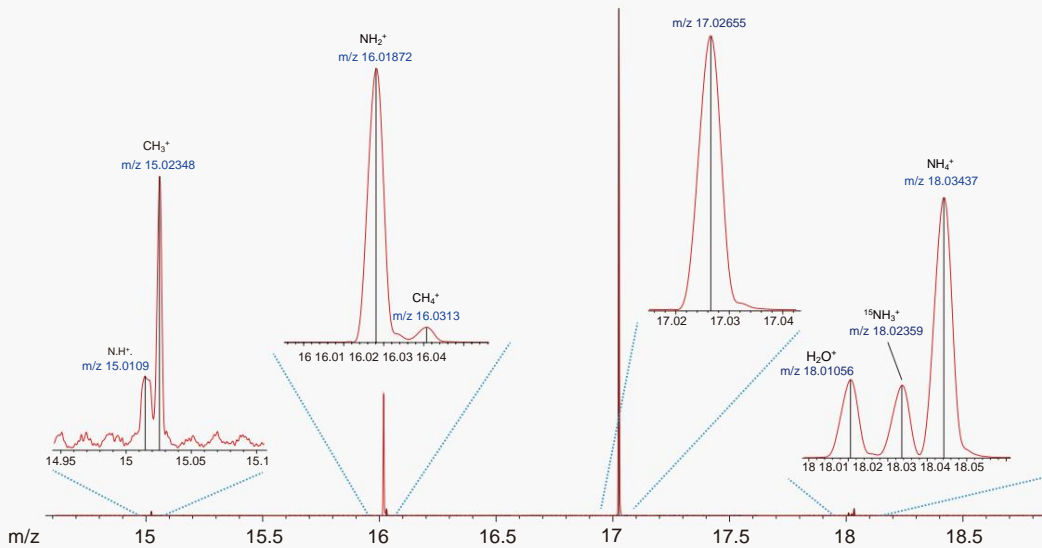


infiTOF-DUO

- Gallium nitride (GaN) is attracting attention as a next-generation semiconductor material for optical and power devices.
- The multiturn high-resolution time-of-flight mass spectrometer infiTOF is used for research and development of nitride semiconductor processes. We are contributing to development.
- In research by Associate Professor Shugo Nitta of Nagoya University's Amano Laboratory, MOVPE reaction was performed using infiTOF. By monitoring NH_3 and its associated reactants in the reactor exhaust line.

分析例 Analysis example

- Research by Associate Professor Shugo Nitta of Nagoya University's Amano Laboratory uses infiTOF, which is portable and has high mass resolution performance, to analyze the inside of a MOVPE reactor.
- The results of online monitoring of NH_3 and its related reactants have been reported. Identical integer masses due to the high mass resolution of infiTOF (m/z 18) H_2O^+ (m/z 18.1056), $^{15}\text{NH}_3^+$ (m/z 18.02359), and NH_4^+ (m/z 18.3437) can be clearly separated. This has led to research on decomposition, reactions, and elucidation of mechanisms.



1) Shugo Nitta, Kentaro Nagamatsu and Hiroshi Amano et al, Ext. Abstr. IWN2016
PS1.48 In-Line NH_3 Reactant Analysis on Nitride Semiconductor Metalorganic Vapor Phase Epitaxy via High-Resolution Mass Spectrometry

- Many manufacturing gases are used in semiconductor processes. Monitoring the mixing ratio of these various gases, secondary products, and reaction processes can improve yield. You can improve productivity, improve productivity, and contribute to next-generation semiconductor research and development. High resolution and quality that allows real-time measurement infiTOF, a quantitative analyzer, supports the production and research and development of higher quality products.

