



Press release – Innsbruck - 20. June 2016

NASA campaign KORUS-AQ: IONICON PTR-TOF to monitor VOCs above Korea Team of the University of Innsbruck and an IONICON PTR-TOFMS aboard NASA research aircraft

An international team coordinated by NASA has recently investigated air pollution over the Korean peninsula. Two of IONICON's PTR-TOFMS instruments were used to monitor volatile organic compounds (VOCs) in real-time aboard NASA's DC-8 Flying Laboratory. The data gathered by scientists from the University of Innsbruck and Korea's National Institute of Environmental Research (NIER) will be used to improve satellite-based air quality monitoring over Korea.

The project

Space agencies in Europe, the United States and Asia pursue an ambitious goal. In the next decade, the quality of the air over the entire northern hemisphere shall be continuously monitored from space. To accomplish this goal, NASA is carrying out research flights in the atmosphere over heavily polluted regions. The insights gained into composition and spatial distribution of air pollutants will improve the interpretation of future satellite imagery.

The collaboration

Teams from the University of Innsbruck and IONICON join their forces for participating in NASA's campaigns. The most talented and experienced scientists use the newest and most powerful PTR-TOFMS technology developed by IONICON engineers. IONICON CEO Lukas MÄRK explains the benefits of this cooperation: „It's like going to space where instruments face their ultimate challenge. We are testing our newest developments under the most demanding conditions, and also benefit from the scientists' experiences when starting to produce novel analyzers for our markets.“

Flights over Seoul

NASA's latest measurement campaign took the researchers to South Korea. 20 research flights were carried out over the Korean peninsula and over the Yellow Sea. A University of Innsbruck team led by Dr. Armin Wisthaler joined US and Korean researchers aboard the NASA DC-8 Flying Laboratory. „The newest PTR-TOFMS instrument detects smallest traces of gases that form particulate matter and ozone in the atmosphere, and is the best of its kind in the world“, says the Instrument Principal Investigator Armin Wisthaler who is also a professor at the University of Oslo. „Our measurements will help scientists in properly assessing air pollution from space and in understanding some of the current air quality problems in South Korea“.

The University of Innsbruck and IONICON have been collaborating over many years for participating in NASA's atmospheric research studies with the most advanced VOC monitoring instrumentation. These research and development activities receive support from the Austrian Space Applications Programme (ASAP) of the Austrian Research Promotion Agency (Österreichische Forschungsförderungsgesellschaft, FFG).

More information about the measurement campaign in South Korea:
<https://espo.nasa.gov/home/korus-aq/content/KORUS-AQ>



About IONICON

IONICON is the world's leading manufacturer of real-time trace gas analyzers for low concentration volatile organic compounds (VOCs) monitoring, based on the unique Proton Transfer Reaction – Mass Spectrometry (PTR-MS) technology, since 1998.

The main scientific application areas include atmospheric chemistry, environmental research, exhaust analysis, food and flavor science, illicit substances detection and breath gas analysis.

In addition to laboratory instruments, IONICON also produces specialized VOC monitoring systems for industrial applications such as the semiconductor industry or for field deployment. A strong technical background allows the company to build its own time-of-flight mass spectrometers, sampling and calibration systems for its analyzers, fast gas-chromatography and auto-sampling modules incl. various multiplexing set-ups.

IONICON hosts an application lab at its headquarters in Innsbruck, Austria offering analytical services to its customers, from initial sample tests to long-term studies.

Learn more about IONICON [here](#).

Pictures:



The smog layer above the greater Seoul area. (Picture: Armin Wisthaler)

High resolution: https://www.uibk.ac.at/public-relations/presse/archiv/2016/749/bilder/pic_20160616134124_23f5220247.jpg



NASA's DC-8 Flying Laboratory over Seoul. (Picture: Saewong Kim)

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The IONICON PTR-TOFMS installed aboard the NASA research aircraft. (Picture: NASA)

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Contacts:

IONICON

Lukas Märk, CEO

Eduard-Bodem-Gasse 3, 6020 Innsbruck

Austria

Tel: +43 512 214 800

Mail: Lukas.Maerk@ionicon.com

Web: www.ionicon.com - blog.ionicon.com

Universität Innsbruck

Dr. Armin Wisthaler

Institut für Ionenphysik und Angewandte Physik

Universität Innsbruck

Mail: armin.wisthaler@uibk.ac.at