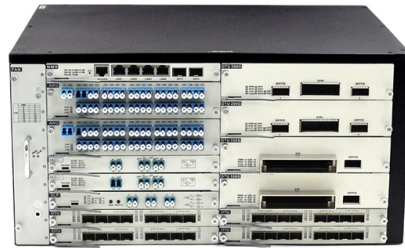


Temperature of Ultra-high Spectrometer



Overview

55 T, UHF NMR delivers exceptional resolution and sensitivity—enabling new capabilities in biomolecular dynamics, quadrupolar nuclei analysis, and magnetic resonance microscopy. Bruker's Ultra-High Field (UHF) NMR technology is pushing the boundaries of modern research. Our. Measuring emissivity is pivotal for obtaining reliable high-temperature measurements through non-contact techniques such as pyrometry and thermal imaging. The interest in characterizing materials in terms of their radiant properties has increased in recent years due to the expanded application. Ultrahigh temperatures, those near and above roughly 3000°C, present an interesting problem to accurate pyrometry. The issues are related to calibration, interference, and inherent error. The applications of spectroscopy are vast, ranging from determining the composition of celestial bodies in astrophysics to analyzing the molecular. Fourier-transform infrared spectroscopy (FTIR) has matured into a versatile technique with relevance for environmental monitoring, pharmaceutical research, and food safety applications. However, compared to other spectroscopic methods, it experiences slower progress in terms of power optimization. ASILOMAR, Calif. -- (BUSINESS WIRE)-- At the Joint ENC-ISMAR Conference 2025, Bruker Corporation, the leading provider of Nuclear Magnetic Resonance (NMR) spectroscopy solutions, announced the successful development and testing of the world's first high-resolution 1.3 GHz NMR spectrometer with a.



Article Content

Apr 17, 2026

Ultra-High-Temperature Processing

Ultra-high temperature (UHT) or aseptic processing involves the production of a commercially sterile product by pumping the product through a heat exchanger. To ensure a long shelf-life the sterile

Oct 03, 2025

High-Stability and Fast Calibration-Free Temperature

In this paper, a series of calibration-free temperature measurement methods based on light-induced thermoelastic spectroscopy (LITES) are proposed for the first

May 15, 2026

Ultra-High Sensitivity Aerosol Spectrometer (UHSAS-G)

The UHSAS-G is an optical-scattering, laser-based aerosol particle spectrometer for sizing particles in the 0.06 μm to 1 μm range. The instrument counts particles in

Jul 12, 2025

(PDF) Analysis of the Impact of Temperature on

The impact of temperature on spectral shift is examined using finite element analysis and optical design software. Estimations of spectral shift were

Nov 25, 2025

Ultra-high-temperature processing

Ultra-high-temperature processing A Tetra Pak ultra-pasteurization line. Ultra-high temperature processing (UHT), ultra-heat treatment, or ultra-pasteurization is a food processing technology that

Sep 22, 2025

VERTEX NEO Ultra Constant Vacuum FT-IR

VERTEX NEO Ultra is the pinnacle of benchtop FT-IR technology. It can achieve the highest spectral resolution, the broadest spectral ranges

May 08, 2026

Mass Spectrometry

In ultra-high vacuum technology (UHV) the mass spectrometer is a very useful tool to analyse vacuum properties. So nearly every UHV system has a quadrupole mass spectrometer included. When the

Feb 13, 2026

Ultrahigh Temperatures :: FAR Associates

The problem is that sources of known temperature and emissivity beyond 3000°C are rare and costly. Where they do exist, they are necessarily calibrated at a

Feb 01, 2026

Advances in Ultra-High-Resolution Mass Spectrometry for

Among different instrumental setups, ultra-high-resolution mass spectrometry with Fourier transform instruments, i.e., Fourier transform ion cyclotron resonance (FTICR) and Orbitrap, gives access to

Jun 07, 2026

Pioneering Excellence in Ultra-High Field NMR

Our unique hybrid technology combines high-temperature and low-temperature superconductors to achieve magnetic flux densities previously thought

Mar 24, 2026

High and ultra-high temperature reaction kinetics by single ...

Methodology is presented for non-destructive, optically-detected single nanoparticle (NP) mass spectrometry, with the goal of extracting surface reaction kinetics for single NPs at high

Sep 22, 2025

UV-Visible/NIR Spectrophotometer UH5700 : Hitachi

Opening the way to the future, the UH5700, the spectroscopy specialist, handles the ultraviolet, visible, and near-infrared regions and strongly supports you.

Dec 18, 2025

Bruker Corporation

This first-of-a-kind ultra-high field magnet and spectrometer pushes the boundaries of what is possible in the field of NMR research and opens a new

Apr 06, 2026

Development of an ultra-clean sample heating stage for thermal ...

In this study, we present a simple ultra-high vacuum (UHV) compatible sample heating stage for trace outgassing analysis of 100 mm samples at high temperatures. Simulation results are

Jun 03, 2026

UV/Vis Spectroscopy Guide | Principles, Equipment & More

Explore UV/Vis spectroscopy from basic principles to advanced applications. Learn about absorbance, equipment, calibration, and laboratory best practices in this comprehensive guide.

Jun 12, 2026

Applications of Ultra High-Performance Liquid

Ultra High-Performance Liquid Chromatography (UHPLC) coupled with High-Resolution Mass Spectrometry (HRMS) systems allow researchers to

Jun 25, 2026

High and Ultra-High Temperature Reaction Kinetics by Single ...

Cambridge Core - High and Ultra-High Temperature Reaction Kinetics by Single Nanoparticle Mass Spectrometry

Jan 19, 2026

WITec Raman Spectrometer

WITec Raman spectrometers are ultra-high throughput spectrometers (UHTS), developed for high speed and high resolution Raman imaging. We offer six

Nov 27, 2025

A high-temperature, ambient-pressure ultra-dry operando reactor cell ...

The construction of a newly designed high-temperature, high-pressure FT-IR reaction cell for ultra-dry in situ and operando operation is reported. The reaction cell itself as well as the sample

Apr 26, 2026

Ultra High Performance Liquid Chromatography

Abstract Ultra-high performance liquid chromatography (UHPLC) has already become a mature and widely adopted separation approach across many application fields. High efficiency, high resolution,

Dec 11, 2025

Spectral emissivity measurement for high-temperature applications: a ...

The aim of this review paper is therefore to systematically examine the literature available on the topic, highlighting the pros and cons of the different methodologies used for measuring emissivity at

Aug 19, 2025

An ultra-high temperature furnace for temperature determination by ...

The furnace is designed for temperature determination experiments by neutron resonance spectroscopy. We report the detailed design and operation of this furnace to provide a reference for

Mar 12, 2026

(PDF) Analysis of the Impact of Temperature on

The imaging spectrometer's high performance in practical applications may be compromised by environmental factors, particularly temperature

Jul 13, 2025

Ultra-hot Jupiter's atmosphere unveiled by high-resolution spectroscopy

Ultra-hot Jupiter is a class of giant exoplanets with extremely high temperatures. Due to their unique chemical and physical properties, this class of exoplanet have become a popular

May 22, 2026

Temperature Effects in Spectroscopy

Explore how temperature influences spectroscopic results and learn techniques to mitigate its effects for more accurate data.

Jul 21, 2025

Quantitative Thermal Emission Spectroscopy at High Temperatures: A ...

A new laboratory micro-furnace experiment was developed to integrate with an existing FTIR spectrometer to acquire accurate, high temperature emissivity spectra of geological samples.

Aug 27, 2025

Pioneering Excellence in Ultra-High Field NMR

Bruker's Ultra-High Field (UHF) NMR technology is pushing the boundaries of modern research. Operating at up to 30.55 T, UHF NMR delivers exceptional resolution and sensitivity—enabling new

Oct 13, 2025

Ultra-high-performance liquid chromatography high-resolution mass ...

This Review surveys ultra-high-performance liquid chromatography high-resolution mass spectrometry (UHPLC-HRMS), a highly sensitive, high-throughput technique that is used for

Aug 09, 2025

Ultra-broadband room-temperature Fourier transform spectrometer

This source is designed to operate at surface temperatures ranging from 100 to 1000°C, which corresponds to peak emission between 2.3 μm and 7.8 μm . Lowered temperatures result in an

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.elagage-lorrain.fr>

Email: sales@elagage-lorrain.fr

Phone: +33 6 47 82 19 35

Address: 15 Rue de la République, 69002 Lyon, France

This document is for informational purposes only. Specifications subject to change without notice.

