



Press Release

Rigaku Corporation
9009 New Trails Drive
The Woodlands
Texas 77381 USA

The Latest Edition of the Rigaku Journal is Available to Download from the Rigaku Website

The Summer 2020 issue—Vol. 36, No. 2—of the Rigaku Journal features the latest X-ray analysis techniques and applications

September 1, 2020 – The Woodlands, Texas. [Rigaku Corporation](#) has published its latest edition of the [Rigaku Journal](#), which is available for download from the company's global website.

The *Rigaku Journal* is a scientific and technical journal published by Rigaku to serve the X-ray analysis community. It is a semiannual journal, publishing articles covering a wide range of X-ray diffraction (XRD), X-ray fluorescence (XRF), X-ray imaging, and other analytical applications.

The latest issue includes five new technical articles, including a feature describing the advantages of “TG-GC” —thermogravimetric and quantitative reacted gas analyses—which employs gas chromatography (GC) as a gas analyzer instead of Q-MS. TG is regarded as one of the most powerful techniques to investigate the fundamental characteristics of inorganic compounds. The article presents the basic concept and the capability of TG-GC along with some case studies.

A study of string cheese, and of the physical properties that confer it with its texture and taste, is also featured, examining the internal structure of string cheese at the micrometer level, and the periodic structure at the molecular level, using X-ray analyses. The key features that were strongly related to the characteristics of texture and taste are studied and the question of why string cheese splits is discussed in conjunction with an examination of the results of thermal analysis.

An article on defect structure analysis in single crystal substrates highlights the features and functions equipped in the [Rigaku XRTmicron](#) X-ray topography (XRT) system. For more than 50 years, XRT has been an essential industrial and research tool for crystal growth of functional materials, since crystalline defects, such as dislocations, stacking faults, etc., can be detected with this technique non-destructively.



The first installment of *Introduction to Powder X-ray Diffractometry* presents an overview of the powder X-ray diffraction method, including the principles and instruments used, and what can be evaluated by such experiments.

Lastly, the issue contains an application report describing water analysis by X-ray fluorescence spectrometry using the Rigaku **UltraCarry** liquid sample carrier for parts-per-billion-level trace element analysis. The method demonstrates the utility of XRF analysis to water quality management of industrial wastewater and agricultural water, as well as of springs, rivers and lakes.

The issue also includes three new product features, including profiles of the **Rigaku ZSX Primus IV*i*** high-power, tube-below, sequential WDXRF spectrometer featuring new ZSX Guidance expert system software; the 9 kW–60 kV type **Rigaku SmartLab** system—an advanced model of the high-brightness X-ray diffractometer equipped with the PhotonMax rotating anode X-ray generator; and a new automatic sample changer and automatic filter changer for the **Rigaku CT Lab HX** 3D micro computed tomography scanner, developed to facilitate CT scanning through seamless management of automatic filter exchange and calibration.



Rigaku ZSX Primus IV*i* WDXRF Spectrometer

The complete issue, individual articles, and back issues are available for download at no cost at www.rigaku.com/journal.

About Rigaku

Since its inception in Japan in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Rigaku and its subsidiaries form a global group focused on general-purpose analytical instrumentation and the life sciences. With hundreds of major innovations to their credit, Rigaku companies are world leaders in X-ray spectrometry, diffraction, and optics, as well as small molecule and protein crystallography and semiconductor metrology. Today, Rigaku employs over 1,400 people in the manufacturing and support of its analytical equipment, which is used in more than 90 countries around the world supporting research, development, and quality assurance activities. Throughout the world, Rigaku continuously promotes partnerships, dialog, and innovation within the global scientific and industrial communities.

For further information, contact:

Michael Nelson
Global Marketing Coordinator
Rigaku Corporation
michael.nelson@rigaku.com

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