e-learning XRFcourse

Outline of this learning and Required time*

【XRF】Fundamentals of X-ray fluorescence spectrometry

Part number JHFE001 Required time approx 2 hours 40 minutes

X-ray fluorescence (XRF) analysis is a non-destructive method of elemental analysis to observe what elements are present in a sample and to determine their concentrations. XRF is widely used in of fields. In this course, the principles of XRF and the configuration of the spectrometer are explained by using an example of a sequential-type instrument. In addition, settings and analysis methods for qualitative and quantitative analysis, evaluation of results of quantitative analysis, an overview of the FP method and an overview of sample preparation are introduced.

Please note: required time is estimated as minimum period by taking consective programs from the beginning to the end of the chapters without any repetition.

Learning points

Contents		
1. Principle of X-ray fluorescence (XRF) spectrometry		The principles such as generation of X-rays, dispersive and detection systems of XRF
2. Qualitative analysis		Qualitative analysis method and data analysis processes
3.Quantitative analysis	3-1. Empirical calibration method	How to establish empirical calibration
	3-2. Correction method	Correction for influences by co-existing elements
	3-3. Accuracy and stability	How to obtain stable and accurate data and to evaluate analysis results
4. FP method		An overview of the FP (fundamental parameter) method, which is used in standardless.
5. Sample preparation		An overview of sample preparation methods, which is the most important for accurate analysis.