X-Ray Fluorescence Analysis with Applications to Environmental Pollution

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Abstract
In the experiment with Energy Dispersive X-ray Fluorescence (EDXRF) and the Total Reflection X-ray Fluorescence (TXRF) analysis, the x-ray from the tube in a either secondary target or total reflection mode is used in to excite the sample. In the de-excitation process characteristic x-rays from the sample are detected by a semiconductor Si (Li) detector. Using the pre-amplifier and associated electronics, signals from different energy x-rays are arranged in ascending energy order in the multi-channel analyzer. The peaks have facilitated the identification of elements in the sample and their concentrations. In this paper the description of the experiments are given and samples such as aerosol, serum and water are given as typical examples. In making such analysis achievement can be made on safety of the air we breath, the food we eat and the water we drink from pollution and contamination.