

**TOTAL REFLECTION X-RAY FLUORESCENCE ANALYSIS AND
APPLICATION IN BIOLOGICAL SYSTEM AND TEXTILE
INDUSTRY**

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Total reflection X-ray fluorescence (TXRF) spectroscopy is developed in recent 20 years and has been used for the determination of trace metal ions in various media such as water samples, geological samples etc. For the simultaneous determination of elements with atomic number greater than 11 in various matrices, TXRF is a universal and economic method. Today, TXRF as a micro trace element analysis technique takes place between the other spectroscopic techniques.

In the present study, the determination of antimony, arsenic, lead, cadmium, chromium, cobalt, copper, nickel, mercury and zinc in the cloth samples produced in Kayseri-Turkey have been performed after extraction with artificial sweat solution and decomposition with nitric acid. TXRF technique is suitable for the determination of 7 trace elements, in the sweat extract and decompose solution except mercury and cadmium. In addition, it was observed that the element contents of textile samples are different from each other as 'finger print type, TXRF-spectrum. This technique can also be used for the identification of textile sample in criminal investigation.