



Flexible solution for X-ray fluorescence scanning

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Technology abstract

X-ray fluorescence (XRF) is a proven technique for material analysis in a broad range of industries and applications; from positive material identification, scrap metal sorting, measuring sulfur in oil, analysis of coating thickness of metal finishing and metal alloys to quality control in the electronics and consumer goods industry. This technology offers a solution for various (handheld) X-ray fluorescence scanning solutions.

ESA Broker Belgium

Although various mobile X-ray fluorescence scanners are currently on the market, the technology has interesting opportunities for new applications in the field of quality control; material property analysis and research due to its algorithm structure and high spectral resolution. The same type of technology is used onboard planetary probe ((the Viking X Ray Fluorescence Experiment, into the Mars lander). That technology is also used in the framework of analyses of meteorites.

- Sam Waes -

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Technology Description

The technology on offer is a Flexible Energy Dispersive X-ray Fluorescence (ED XRF) working prototype to be further developed for any industrial application. General available benefits of XRF technology:

- Minimal or no sample preparation
- Non-destructive analysis
- Na11 to U92 analysis, ppm to high % concentration range
- No wet chemistry – no acids, no reagents
- Analysis of solids, liquids, powders, films, granules etc
- Rapid analysis – results in minutes
- Qualitative, semi-quantitative, to full quantitative analysis
- For routine quality control analysis instrument can be ‘used by anyone’

Innovations & Advantages

The main advantages of the offer are the high spectral resolution and the software adapted for specific applications (i.e. our coating thickness measurement software is unique, due to its proprietary algorithm). Competitive solutions can be easily adapted to a particular industrial process thanks to the developed algorithm.

Current and Potential Domains of Application

A portable demonstrator device has been developed optimized to measure coating thickness or to detect lead. Industrial applications or new versatile portable applications are of interest.

With the developed solution real-time measurement can be realized which are typically interesting for quality control of industrial production processes.

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