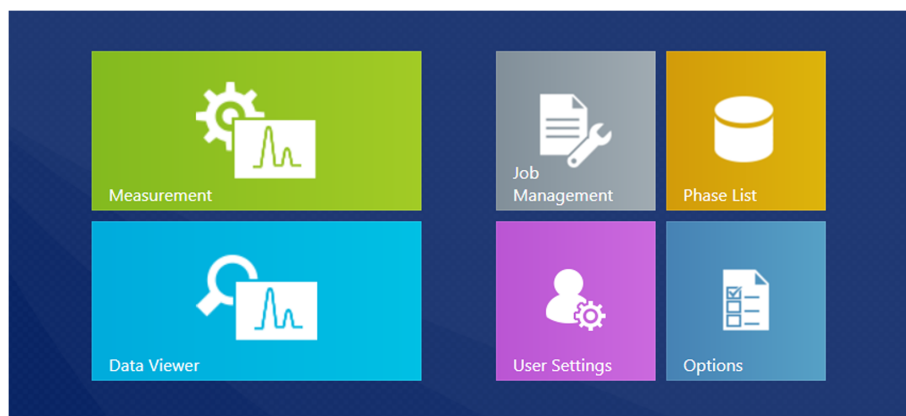


Powder analysis software



Qualitative and quantitative phase analyses by simple operation



1. Introduction

EasyX is an easy to use software package for completely integrated measurement and analysis of X-ray diffraction data. Crystalline phases can be automatically measured, identified, and quantified in just three clicks. EasyX is well suited for the analysis of industrial materials in the laboratory and on the production floor. It offers the best functionality and usability not only to XRD professionals but also to users with only general analytical laboratory experience. The computational part of EasyX is the same as that of PDXL, our industry leading analysis software so both beginners and experienced users can be sure of the highest quality analyses. EasyX is fully integrated with the MiniFlex 300/600 series of benchtop XRD systems. Operation and full analysis is completely turn-key and fully compatible with Rigaku's CFR part 11 regulatory software solutions.

2. Features

EasyX has five functions for data analysis.

- (1) Automatic determination of the XRD pattern peak positions. The located peaks can be used in subsequent analysis or simply registered as a reference pattern and stored in a user's own database.
- (2) Automatic comparison of a measured powder diffraction pattern with the reference pattern registered by user.
- (3) Automatic phase identification of a crystalline

material by referencing a user or other compatible database.

- (4) Automatic quantitative phase analysis using the RIR method.
- (5) Point and click determination of integrated intensities of user-selected diffraction lines.

EasyX has six tiles on the start screen for entering into work spaces. Two large tiles on the left-hand side are for measurement and data viewing. "Measurement" takes the user through the automated steps for data collection, automatic analysis, and display of the result (Fig. 1). "Data Viewer" is used to comparatively view

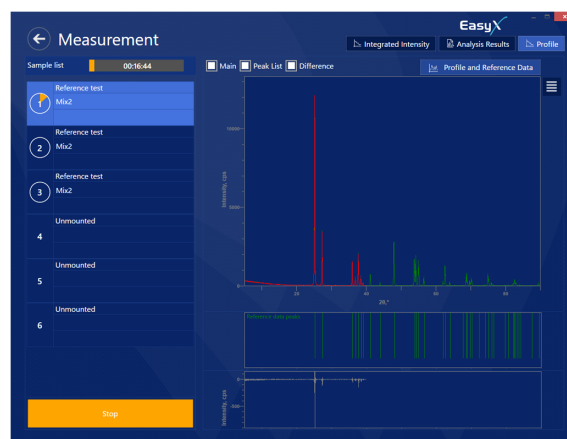


Fig. 1. Automatic fitting of observe pattern with the reference pattern.



Fig. 2. Display of sample-dependent variation of weight fractions in Data Viewer.

present and past data and graphical display of various application analysis results. As an example Fig. 2 displays the variations of weight fractions for a series

of samples. Display of the diffraction pattern and the analysis results graph can be switched by one-click.

Four small tiles on the right-hand side pertain to administrative/management functions.

“Job” is a set of experimental parameters for a measurement. Any number of jobs can be defined and accessed.

“Phase List” stores intensity and d-spacing information for both user collected/registered diffraction patterns and third party supplied databases:

“User Setting” controls various users accessibility to software options.

“Option” allows control of system parameters such as languages, color, and design of the background.

3. Operational conditions

EasyX can be run on the MiniFlex 300/600 systems with the D/teX Ultra2 high speed detector and ASC 6 automatic sample changer. EasyX is Windows®10 Pro compatible.