Abstract

Landyne4, a software suite for electron diffraction simulation and crystallographic analysis

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Landyne4 is the recent version of the software suite for electron diffraction simulation and crystallographic analysis [1-5]. The software suite currently includes ten stand-alone computer programs. Each of them was designed for one topic of application in electron diffraction simulation, crystallographic analysis or experimental data processing and quantification. Figure 1 shows the example applications of three components in the Landyne suite. The computer programs have been grouped into a suite to increase the total usefulness and a launcher has been developed for the users to conveniently access all of the computer programs. The purpose of this software suite is twofold: i) as research tools to analyze experimental results, ii) as teaching tools to show students the principles of electron diffraction and crystallography. The software suite was programmed using Java SE Development Kit 8. It has been successfully tested on Microsoft Windows 7, 8 and 10 with a Java virtual machine, i.e. Java 2 Runtime Environment (J2RE).

Biography:

Xing-Zhong Li works at University of Nebraska. He manages an electron microscopy facility and joins in a research group focusing on the development of novel magnetic materials. He obtained his PhD degree in materials physics in 1993 and has interest in software development since 1999, especially on electron diffraction analysis and crystallography.

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