Supplementary information

Three-dimensional rotation electron diffraction: software RED for automated data collection and data processing

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References
S1. Technical details of software implementation

The RED program package, consisting of the data collection and data processing programs, is written in C++. The graphical user interfaces are implemented using the Qt framework. The data collection program has been implemented for JEOL TEMs. It controls the microscope using the external TEM control which is a component object model (COM) module provided by JEOL. Reading data from the camera is implemented using a DigitalMicrograph plugin provided in the Gatan software development kit.

3D visualization of reciprocal space in the data processing program is performed using OpenGL. The program has optimum performance in visualization with a graphics card supporting hardware OpenGL acceleration. Fast Fourier transform calculations in cross correlation is done using the AMD Core Math Library. The data processing program has been tested on Windows and Linux. The data collection program works on Windows only, as it needs to interface with the camera and microscope software that run only on Windows.

S2. Graphical user interfaces of the data collection program

![Data Collection Window](image1.png) ![Calibration Window](image2.png)

Figure S1 Data collection window (a) and calibration window (b) of the RED data collection program.
References


Qt framework, http://qt-project.org/