

Software MULTEM

A. Short Description

Open source user friendly software code to perform accurate and fast electron diffraction and image simulations using CPU/GPU.

B. Host Location

<https://github.com/lvanlh20/MULTEM>

<http://www.mulTEM.emat.uantwerpen.be>

C. Requirements / Platforms

MULTEM is a multiplatform software to perform accurate and fast TEM simulations. The user interface consists of a cross-platform GUI based on the QT software package. The C++ MULTEM libraries can be called from external code or more conveniently using MATLAB wrappers via a so-called mex interface.

There is a README in <https://github.com/lvanlh20/MULTEM> with compilation information.

D. Literature references

I. Lobato and D. Van Dyck. An accurate parameterization for the scattering factors, electron densities and electrostatic potentials for neutral atoms that obey all physical constraints. Acta Crystallographica Section A, 70:636–649, 2014.

I. Lobato and D. Van Dyck. MULTEM: A new multislice program to perform accurate and fast electron diffraction and imaging simulations using Graphics Processing Units with CUDA. Ultramicroscopy, 156:9–17, 2015.

I. Lobato, S. Van Aert, J. Verbeeck. Progress and new advances in simulating electron microscopy datasets using MULTEM. Submitted to Ultramicroscopy.

E. Restrictions / Acknowledgements Required

Open source