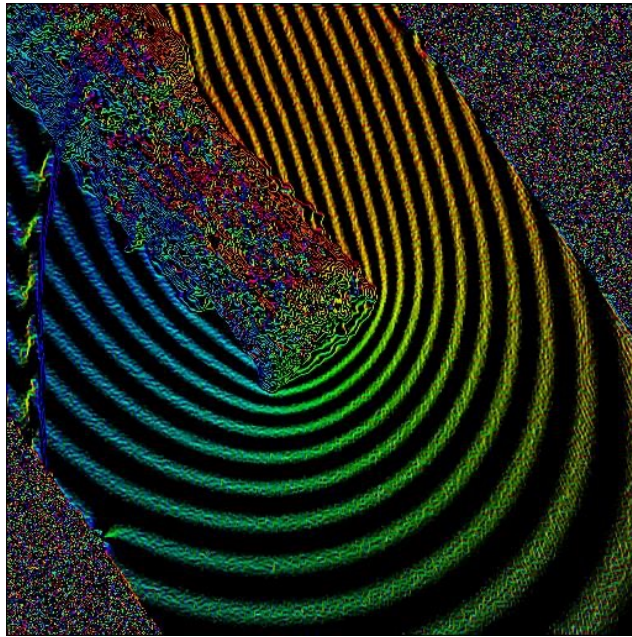


qHolo – Quantitative holography

Quantifying off-axis electron holography

qHolo provides all the tools you need to carry out off-line quantitative analysis of off-axis electron holograms with the highest precision. In particular, qHolo was designed for the analysis of magnetic and electric fields.



For at-the-microscope help with holography, please use the *HoloLive* module dedicated to live reconstruction of the phase during experiments.

Key Features

- ◆ Phase reconstruction using the Fourier transform method
- ◆ Automatic side-band detection
- ◆ Carrier frequency refinement via reference area
- ◆ Distortion correction via a reference hologram
- ◆ Phase unwrapping
- ◆ Separation between magnetic and electric fields
- ◆ Vector field visualization tools

References:

- [1] C. Gatel, B. Warot-Fonrose, N. Bizière, et al., Nature Communications. 8, 15703 (2017). Inhomogeneous spatial distribution of the magnetic transition in an iron-rhodium thin film.
- [2] C. Gatel, J. Dupuy, F. Houdellier, M.J. Hÿtch, Appl. Phys. Lett. 113, 133102 (2018). Unlimited acquisition time in electron holography by automated feedback control of transmission electron microscope.
- [3] M. Brodovoi, K. Gruel, A. Masseurboeuf, L. Chapuis, M. Hÿtch, et al., Appl. Phys. Lett. 120, 233501 (2022). Mapping electric fields in real nanodevices by operando electron holography.
- [4] L. Zhang, F. Lorut, K. Gruel, M.J. Hÿtch, and C. Gatel, Nano Letters 24, 5913-5919 (2024). Measuring electrical resistivity at the nanoscale in phase-change materials.

