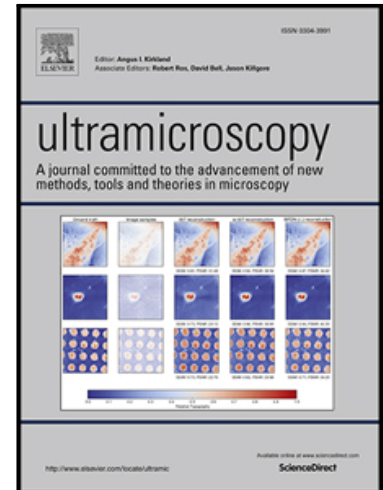


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2D strain mapping using scanning transmission electron microscopy
Moiré interferometry and geometrical phase analysis

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Highlights

- A strain characterization technique based on scanning transmission electron microscopy (STEM), Moiré interferometry, and geometrical phase analysis (GPA) is proposed.
- Basics from sampling theory is applied to explain the formation of 2D Moiré features in an electron micrograph when sampling the crystal periodicities at specific frequencies.
- A step by step procedure is provided to acquire proper STEM Moiré holograms for strain application and convert them into GPA treatable format using sets of elementary shifts in Fourier space.
- 2D relative deformation maps on large devices (up to a few microns) can be determined using STEM Moiré GPA technique.

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