



TECHNOLOGY

A Novel Technique for Eliminating Edge Artifacts in Magnetic Microscopy

OVERVIEW

Magnetic Inverse techniques used to detect faults in microelectronic structures allow a two dimensional magnetic field image produced to be converted into a current-density map. However, discontinuities in the magnetic field image at the edges of the image can lead to undesirable "ripple" artifacts (noise or interference) in the resulting map.

Researchers at the University of Maryland have come up with a technique which improves on the magnetic field inversion process enabling to minimize the edge effects, resulting in an increase by about 50-60% in the size of k-space. This in turn yields a higher spatial resolution and greatly reduces the artifacts introduced by the edges.

The invention could result in an improved resolution in magnetic imaging of electrical circuits, magnetic materials, certain biological samples (e.g. magnetotactic bacteria). On the long run it could improve resolution in diffraction-limited optical, infrared, radio images and also an improvement of quantum computing algorithms for factoring large numbers.

For further information, please contact the Office of Technology Commercialization, (301)405-3947 Email: otc@umd.edu.

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Imaging devices

EXTERNAL RESOURCES

- [US Patent 7,085,656](#)

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