Magnetic Vortex Core Pinning by an Artificial Defect
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- Magnetic disk with artificial defect
  - Disk prepared by e-beam lithography and dry etching.
  - Defect incorporated by focused ion beam.
  - A magnetic vortex forms in the disk, with a core that is like the funnel of a tornado.

- MAJOR OBSERVATIONS
  - We probe the magnetic susceptibility of a single disk as a function of vortex core position which is controlled by magnetic field, H.
  - When the core is trapped by an artificial defect, the magnetic susceptibility, \( \chi \), of the disk is altered.
  - The image below represents 200 nm x 200 nm displacement of the core. Changes in \( \chi \) indicate pinning of the core by a single artificial defect.

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