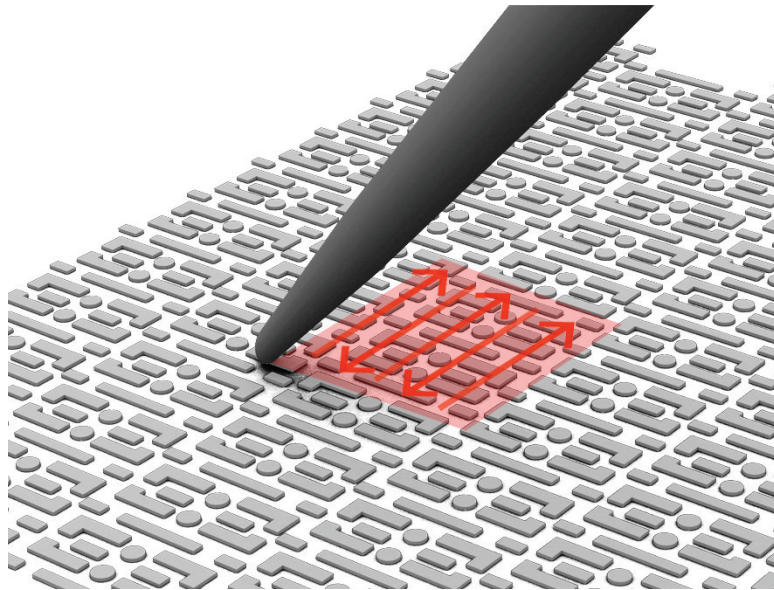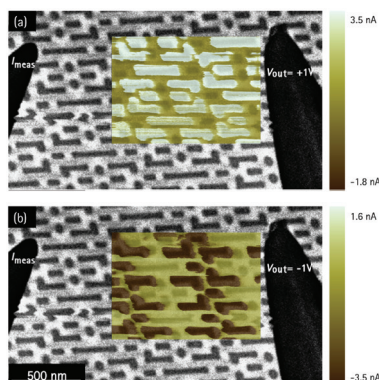# Current Imaging

Current Imaging (CI) is a method for visualizing a sample's current response to a biased probe tip that is scanned over the sample surface.

The resulting image yields information on the contacts' electrical properties. For instance, by varying the bias voltage on the tip, it is possible to selectively image n-mos or p-mos contacts.

Combining this method with Scanning Electron and Focussed Ion Beam microscopes (correlative microscopy) can be of great advantage in locating shorts, opens, high-resistance connections, as well as leakages in order to prepare site-specific TEM samples at the determined locations without having to move the sample to a separate tool.

CI is an ideal method for electrical fault isolation (EFI) and is complimentary to electron beam induced current (EBIC) imaging.

Specifications

- Scan Range: 1.5 μm x 1.5 μm
- Pixel step size: 0.4 nm .. 50 nm
- Image size: line pixels: 32 .. 2048
                            column pixels: 32 .. 2048
- Scan speed: 32 x 32 pixels: 2 s
                            128 x 128 pixels: 7 s
                            512 x 512 pixels: 45 s, …
- Voltage bias: -10 V .. +10 V
                            16 bit resolution
- Current measurement: 9 ranges
                            +/- 20 pA .. +/- 2 mA
                            < 1 pA resolution
- Intuitive software control interface:
  - routing of voltage to any tip or substage
  - routing of current sink to any tip or substage
  - any tip or the substage usable as scanner
  - adjustable scan and measurement parameters
  - intuitive data storage/handling
  - external data viewer

Further information

- Contact us at info@kleindiek.com
- Find your local agent at www.kleindiek.com