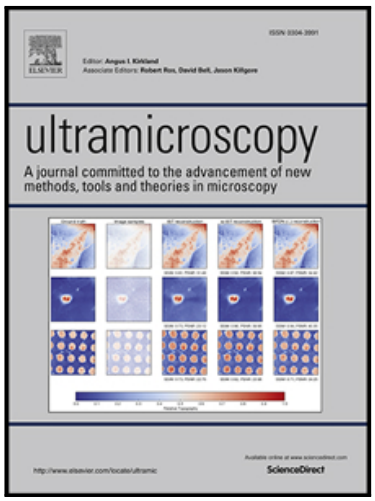

Multifrequency Kelvin Probe Force Microscopy on self assembled molecular layers and quantitative assessment of images' quality

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Highlights

The microprinted discontinues self organized monolayer as a KPFM reference sample is proposed.

The maximum information channel capacity (*ICC*) as a quantitative KPFM image quality metric is proposed.

A KPFM system with open architecture is used to investigate the performance of KPFM quality assessment.

The results strongly supports the hypothesis that soft modes of cantilever vibrations require lower amplitude of modulation voltage ensuring that the electric field is concentrated around the tip.

The concentrated electric field increases KPFM images resolution (bandwidth).