

Abstract Submitted
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Scanning Tunneling Microscope with Two-Dimensional Coarse Approach¹ JOHN NICHOLS, KWOK-WAI NG, University of Kentucky — Since the invention of the Scanning Tunneling Microscope (STM), it has been a powerful tool for probing the electronic properties of materials. Typically STM designs capable of obtaining resolution on the atomic scale are limited to a small area which can be probed. We have built a STM with a coarse approach in two dimensions, the z- and x- directions which are respectively parallel and perpendicular to the tip. This allows us to image samples with very high sensitivity at sites separated by macroscopic distances. This device is a single unit with a compact design making it very stable with the potential of use at cryogenic temperatures. This STM is capable of obtaining atomic resolution on HOPG. I will discuss the design of this STM and share images illustrating its capabilities.

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