Biological Applications

Zero-Mode Waveguide for Single Molecule Applications

Abstract:
Nanofluidics, Inc., is researching novel nanofabricated structures for single molecule observation and their potential applications in the biological sciences. The zero-mode waveguide [1] is one such structure that allows the observation of single molecules at very high concentrations. Potential applications include the study of binding equilibrium and kinetics in biological systems, especially for enzyme/substrates interactions.

Summary:
Nanofluidics, Inc., has focused its research on improving its fabrication process for the zero-mode waveguides. Over the last year, we have increased significantly our yield and developed a wafer-scale production method that allows us to manufacture accurately and reliably a large number of test structure efficiently. These developments have allowed us to increase our measurement throughput and quality manifold while lowering our production costs.

References:
Zero-Mode Waveguide for Single Molecule Applications

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Figure 1:
Image of a single zero-mode waveguide fabricated by a Nanofluidics, Inc., new process.