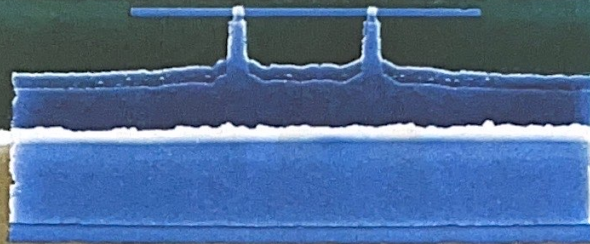


Quantum Money, Teleportation and Computation

New Mysteries from the Quantum World

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In the world of quantum mechanics, Heisenberg uncertainty is a key feature that for many years was thought of as a limitation or disadvantage. Physicists have recently come to realize that quantum uncertainty can in fact be a useful resource to encrypt information securely, create 'quantum money' that cannot be counterfeited, 'teleport' quantum states from one place to another, and build quantum computers that can solve certain problems exponentially faster than classical computers. This talk will give an elementary introduction to these ideas and describe current experimental attempts to construct the quantum bits that might someday form the building blocks of a practical quantum computer.

<http://pantheon.yale.edu/~smg47>