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How Does the Quantum World Cross Over?

The universe according to quantum mechanics is strange and probabilistic, but our everyday reality seems nailed down. New experiments aim to probe where—and why—one realm passes into the other

By Tim Folger

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Most of Simon Gröblacher's handiwork is invisible to the naked eye. One of the mechanical devices he fashioned in his laboratory at Delft University of Technology in the Netherlands is just a few millionths of a meter long—not much bigger than a bacterium—and 250 nanometers thick—about a thousandth of the thickness of a sheet of paper. Gröblacher no doubt could continue to shrink his designs, but he has a different goal: he wants to scale things *up*, not down. “What we're trying to do is make things that are really, really big,” he says as he brings up images of hardware on his computer. Keep in mind that for Gröblacher, an experimental physicist, “really, really big” means something just barely visible without a microscope, “a millimeter by a millimeter in size.”

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