Image: Claudio Rocchini

STRINGS: A THEORY OF EVERYTHING?

There have been two great breakthroughs in the 20th century physics: Einstein's theory of general relativity and quantum mechanics. The problem is that the two theories don't get along. String theory is an attempt at solving that problem and creating a theory of everything.

String theory asserts that the fundamental building blocks of nature are not like points, but like strings: they have length. These little strings can vibrate. The different particles and forces we see in nature are just the fundamental strings vibrating in a multitude of different ways.

But has anyone ever seen such strings? The honest answer is "no". The current estimate of the size of these strings is about 10^{-34}m, far smaller than we can see today. Still, string theory is one of the only candidates we have for a theory of everything. And for many scientists, including string theorists at Queen Mary University of London, its mathematical elegance is sufficient reason to keep pursuing it.

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