Polygonal Iteration Captures Physics Better Than Continuum Math

Terry Bollinger
2022-10-08.08:25 EDT Sat
Email Excerpt

Date: Sat, 8 Oct 2022 08:25:17 -0400
Subject: Re: dimensional counting
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Mitch,

Thanks, these look intriguing! I'll be in DC at a couple of physics meetings today — my first such trip in years, as I was too weak for years, and venturing out long is still unsettling to me — but I look forward to reading these items.

And yes: I am, by now, fully convinced that every use of a smooth, continuous function to represent the physical world amounts to dangerously naive math. It only works because the *application* of such math is *never* continuous: Values for actual predictions are, instead, always calculated iteratively in steps that I suspect correspond better to your polygonal geometries. In that case, the rules for manipulating equations are rules for transforming polygonal calculation programs — also known as "equations" — in ways that *usually* give plausible results.

The "usually" part is essential because if you assume infinitely-precise real numbers as a no-added-cost *given* in such equations, you've disconnected yourself from real-world, quantum-limited physics before you even started.

That disconnect is the deeper source of pretty much all of the non-testable silliness that has dominated physics in the last half-century. Black-hole singularities, superstrings, and many-worlds are all examples of math noise created by assuming infinitely precise real numbers and perfect smoothness are no-cost "givens" when executing otherwise fully valid and profoundly physics-based equations. The deeper problem in such cases is the reality-oblivious extension of polygonal-approximation equations to their infinite limits *after* stripping off all of their sanity-preserving finite-energy, finite-information limiters.

Cheers,
Terry

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