LIGO backstory delights and displeases
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The requirement for a finite monopole size is a consequence of the monopole’s strong magnetic charge, and the electromagnetic duality means that the same conclusion would also apply to particles that have a strong electric charge. The strong charge means that the classical picture of a field around a static source may not apply, and hence the nonzero size could also be due to quantum mechanical effects without any new particles.

Our theoretical understanding of strongly coupled quantum field theories is limited, but lattice field theory simulations show that in its simplest form, quantum electrodynamics allows relatively strong charges, although not as strong as the Dirac charge of a magnetic monopole. The maximum charge allowed for a magnetic monopole in the standard model without any new particles is an interesting point that the radius of a field around a static source may not apply, and hence the nonzero size could also be due to quantum mechanical effects without any new particles.

Because of space limitations, I could not do justice to the wide range of fascinating ways people have been trying to find magnetic monopoles. Christopher Harrison and Ken Frankel highlight some of the pioneering attempts. Although those searches did not produce positive results, they paved the way for future experiments, and their method of using a SQUID (superconducting quantum interference device) to search for monopoles is still being used in the MoEDAL experiment at the LHC.

Reference

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I was unpleasantly surprised by the tone of Robert Garisto’s Commentary in the August 2016 issue. There are two principal reasons for my displeasure.

First, cheerleading of any form in scientific reporting is entirely inappropriate. It brings several issues into question. Were the referees preferentially chosen so as to guarantee a positive outcome? Was the discovery truly momentous? With regard to the second question, I doubt that many relativists would have thought that gravitational waves didn’t exist. Entirely different is the truly momentous experimental observation of the Higgs particle, for example. The self-aggrandizing posture of the editor of Physical Review Letters would make us think that even he was a fully involved partner in the discovery.

Second, it’s fine to use nicknames in private or in a group. But referring to Gabriela González as “Gaby” is in a sense, demeaning to her, and it is inappropriate in a larger context. The practice is reminiscent of the overly enthusiastic reporting of the early space missions as if they were great athletic events, of early spaceflights, and of often unfortunate political postures—for example, refer-