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Dirac Monopoles in a Bose-Einstein Condensate[1]

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Over eighty years ago, Dirac established a theory of magnetic monopoles consistent with both classical electrodynamics and quantum mechanics [1]. I will discuss Dirac's theory and a recent realization [2] of its essential features, including a monopole, in the context of the synthetic electric and magnetic fields supported by a spinor Bose-Einstein condensate.

[1] P. A. M. Dirac, Proc. Roy. Soc. A **133**, 60 (1931).
[2] M. W. Ray, E. Ruokokoski, S. Kandel, M. Möttönen, and D. S. Hall, Nature **505**, 657 (2014).

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