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B dependence of the QED chiral condensate induced by an external magnetic field.

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We have shown by lattice QED simulations that an external magnetic field induces chiral symmetry breaking with a non-zero chiral condensate, as predicted by Schwinger-Dyson methods, using a single large external magnetic field (see J.B.Kogut and D.K.Sinclair, Phys. Rev. D 109, 034511 (2024)). We are now extending these simulations to a weaker magnetic field to test that the chiral condensate is $\propto (eB)^{3/2}$ as expected.

Primary author: SINCLAIR, Donald (Argonne National Laboratory)

Co-author: Dr KOGUT, John (USDOE and University of Maryland)

Presenter: SINCLAIR, Donald (Argonne National Laboratory)

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