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Author contributions

M.J.B. initiated and coordinated the project. B.D. led the field theory and fluctuation analysis. A.L. led the hydrodynamic analysis, and wrote and performed numerical simulations. K.S. led the gauge-gravity analysis. M.J.B. wrote the manuscript with input from all the authors.

Additional information

Supplementary information is available in the online version of the paper. Reprints and permissions information is available online at www.nature.com/reprints. Correspondence and requests for materials should be addressed to M.J.B.

Competing financial interests

The authors declare no competing financial interests.

CORRIGENDUM

Observation of two-orbital spin-exchange interactions with ultracold SU(N)-symmetric fermions

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In the version of this Article originally published the assignment of states with symmetric electronic wavefunctions ($|eg^+\rangle$) and with antisymmetric electronic wavefunctions ($|eg^-\rangle$) to the observed spectral lines was inverted throughout. This has now been corrected in the online versions.