

Abstract Submitted
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FFLO States in Holographic Superconductors GEORGE SIOPSIS¹,
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HERIOS PAPANTONOPOULOS, National Technical University of Athens — We
discuss a novel mechanism to set up a gravity dual of FFLO states in strongly cou-
pled superconductors. The gravitational theory utilizes two $U(1)$ gauge fields and a
scalar field coupled to a charged AdS black hole. The first gauge field couples with
the scalar sourcing a charge condensate below a critical temperature, and the second
gauge field provides a coupling to spin in the boundary theory. The scalar is neutral
under the second gauge field. By turning on an interaction between the Einstein
tensor and the scalar, it is shown that, in the low temperature limit, an inhomoge-
neous solution possesses a higher critical temperature than the homogeneous case,
giving rise to FFLO states.

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