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FFLO States in Holographic Superconductors JAMES ALSUP, University of Michigan-Flint, ELEFThERIOS PAPANTONOPOULOS, National Technical University of Athens, GEORGE SIOPSIS, University of Tennessee — We discuss the gravity dual of FFLO states in strongly coupled 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 incorporates a magnetic field that couples to spin in the boundary theory. The scalar is neutral under the second gauge field. By turning on a magnetic interaction between the second $U(1)$ field and the scalar, it is shown that, in the high-field limit, an inhomogeneous solution possesses a higher critical temperature than the homogeneous case, giving rise to FFLO states close to zero temperature.

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