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**Observation of the Nernst signal generated by fluctuating Cooper pairs**

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Long-range order is destroyed in a superconductor warmed above its critical temperature ( $T_c$ ). However, amplitude fluctuations of the superconducting order parameter survive and lead to a number of well-established phenomena such as paraconductivity: an excess of charge conductivity due to the presence of short-lived Cooper pairs in the normal state. According to a theory by Ussishkin, Sondhi and Huse, these pairs generate a transverse thermoelectric (Nernst) signal. In two dimensions, the magnitude of the expected signal depends only on universal constants and the superconducting coherence length, so the theory can be unambiguously tested. In a dirty superconductor, the lifetime of Cooper pairs exceeds the elastic scattering time of normal electrons in a wide temperature range above  $T_c$  and, consequently, their Nernst response dominates the one generated by the normal electrons. We studied the Nernst effect of amorphous superconducting films of  $\text{Nb}_{0.15}\text{Si}_{0.85}$  and resolved a Nernst signal, which persists deep inside the normal state. The amplitude of the observed signal is in excellent agreement with the theoretical prediction [1].

[1] A. Pourret, H. Aubin, J. Lesueur, C. A. Marrache-Kikuchi, L. Bergé, L. Dumoulin, K. Behnia, Nature Phys. 2, 683 (2006).