## Thermoelectric current in a graphene Cooper pair splitter

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Splitting a Cooper pair out of a s-wave superconductor (SC) provides a natural source for two entangled electrons which can be utilized in quantum information processing. As the Cooper pairs reside at the Fermi level, energy-conserving filtering based on non-superconductive quantum dots (QD) having tunable energy levels, for example, can be employed to single out the two emerging electrons. Besides voltage bias, the Cooper pair splitting can be driven by a thermal gradient across the QD-SC-QD systems because the occupation numbers in the quantum dots are influenced by temperature. The splitting by a thermal gradient leads to a non-local Seebeck effect, which we demonstrate in this work experimentally for the first time. In addition to the QD-SC-QD splitter carved out of monolayer graphene, our experimental sample includes a galvanically separated graphene heater and superconducting graphene junctions for thermometry. We observe non-local thermoelectric effects when the energy level of the two quantum dots vary around the Fermi energy of the superconductor. Our observed non-local thermoelectric currents agree well with the theoretical results calculated for two quantum dots with wide resonances.