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Electrical transport property of nano carbon superconductors YUKI MATSUDA, Department of Physics, Tohoku Univ, SATOSHI HEGURI, WPI-AIMR, Tohoku Univ, YOICHI TANABE, Department of Physics, Tohoku Univ, KATSUMI TANIGAKI, WPI-AIMR, Tohoku Univ — C_{60}-based solids are known as typical nano carbon materials. Superconducting critical temperature (T_C) of A_3C_{60} (A = alkali metal) fullerides, with most frequently showing face-centered-cubic (fcc) structure, increases monotonically, and can be controlled by varying the ionic radius of A. Recently, T_C raised to 38 K for Cs_3C_{60} under high pressure. All of these compounds are extremely sensitive to the air, and mainly magnetic measurements have been employed as experimental conditions. On the other hand, their transport properties, such as electrical resistivity, Hall effect, and thermoelectric power as a function of temperature or pressure, have not been investigated in spite of much interest in many aspects of physical properties. In order to understand the superconducting mechanism and other electron properties in detail, we will present electrical transport properties for this family.

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