

Exploring the Thermoelectric Transport in Carbon Nanotube Films

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Carbon nanotube films have recently been recognized as thermoelectric materials that enables the construction of wearable electronics and power modules. However, the absence of air- and thermally-stable doped, i.e. n-type materials has hindered not only the development of practical PN series thermoelectric modules but also the optimal tuning of thermoelectric transport. Here we solve this issue by using supramolecular chemistry. I will talk about the preparation of air- and thermally-stable p- and n-type carbon nanotubes, and their application in thermoelectric power generation [1], [2]. A recent progress on the power factor enhancement is also presented [3], [4].

References:

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