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Detection of Carrier Scattering Mechanism by Thermopower SHUANG TANG, MILDRED DRESSELHAUS, Massachusetts Inst of Tech-MIT — We have developed a new method to detect the carrier scattering mechanism at different temperatures by measuring the maximum values of thermopower (Seebeck coefficient). The graphene system has been studied as a model example. The contribution of short-range interaction scattering, and long-range scattering has be inferred when the temperature varies from low temperature to room temperature. The approach to change the maximum values of thermopower (Seebeck coefficient) is also discussed. This method can not only be used in graphene, but in many novel systems, including MoS₂, WS₂, and black phosphorus, and other general systems.

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