Article

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Measuring the thermal conductivity and interfacial thermal resistance of suspended MoS_2 using electron beam self-heating technique

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Abstract

Establishment of a new technique or extension of an existing technique for thermal and thermoelectric measurements to a more challenging system is an important task to explore the thermal and thermoelectric properties of various materials and systems. The bottleneck lies in the challenges in measuring the thermal contact resistance. In this work, we applied electron beam self-heating technique to derive the intrinsic thermal conductivity of suspended Molybdenum Disulfide (MoS_2) ribbons and the thermal contact resistance, with which the interfacial thermal resistance between