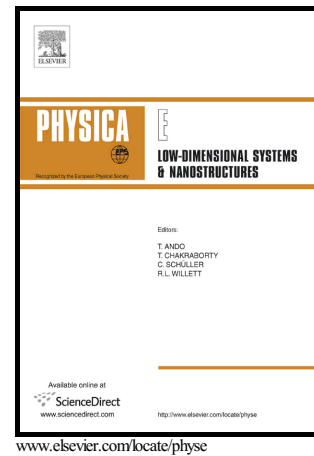


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# Thermoelectric transport and spin density of graphene nanoribbons with Rashba spin-orbit interaction

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## Abstract

In the present paper, we have theoretically investigated thermoelectric transport properties of armchair and zigzag graphene nanoribbons with Rashba spin-orbit interaction, as well as dephasing scattering processes by applying the nonequilibrium Green function method. Behaviors of electronic and thermal currents, as well as thermoelectric coefficients are studied. It is found that both electronic and thermal currents decrease, and thermoelectric properties been suppressed, with increasing strength of Rashba spin-orbit interaction. We have also studied spin split and spin density induced by Rashba spin-orbit interaction in the graphene nanoribbons.

Keywords: Graphene nanoribbons; Thermoelectric transport; Rashba spin orbit interaction; Dephasing scattering; Spin density

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