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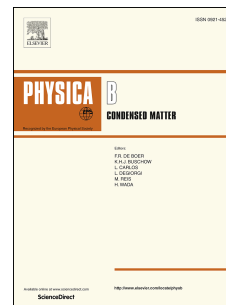
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# Effect of assisted hopping on spin-dependent thermoelectric transport through correlated quantum dot

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## Abstract

We analyze the spin-dependent thermoelectric transport through the correlated quantum dot. In our model we assume that the coupling between the dot and external metallic leads depends on the dot's filling. The assisted hopping processes break the particle-hole symmetry of thermoelectric transport characteristics, such as the thermopower or electric and thermal conductance measured as a function of the gate voltage. We show that assisted hopping can be the mechanism which is responsible for the plateau generation in the dependence of the linear conductance on the gate voltage. Moreover, in the case of dot's nonzero spin splitting energy, which is generated by an external magnetic field, we analyze the dependence of the spin-Seebeck coefficient and the spin polarization of linear conductance on the value of assisted hopping parameter. We demonstrate that the assisted hopping processes can enhance the spin dependence of the relevant transport characteristics.

*Keywords:* quantum dots, assisted hopping effect, transport characteristics

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## 1. Introduction

Recently, there has been an increasing interest in both experimental implementation and theoretical examination of transport properties of various nanos-

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