

Abstract Submitted
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Time-dependent multiple scattering approach for a single finger-gate in a Rashba-type quantum channel . LU-YAO WANG, Department of Electrophysics, National Chiao-Tung University, Hsinchu 30010, Taiwan, C.S.TANG TEAM¹, C.S. CHU TEAM² — We consider a Rashba-type quantum channel (RQC) consisting of one AC-biased finger-gates (FG) that orient perpendicularly and located above the RQC. Such an AC-biased FG gives rise to a local time-modulation in the Rashba coupling parameter, and generates a dc spin current (SC). A static potential is located inside or outside the FG in the RQC and the backscattering effect is studied. We use analytical time-dependent multiple scattering approach to treat the effect of the SC suppression due to a static potential in the RQC.

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