

Abstract Submitted  
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**Spin Resonance and dc Current Generation in a Quantum Wire** PENG ZHOU<sup>1</sup>, ARTEM ABANOV<sup>2</sup>, WAYNE SASLOW<sup>3</sup>, VALERY POKROVSKY<sup>4</sup>, Texas A&M Univ. — We show that in a quantum wire the spin-orbit interaction leads to a narrow spin resonance at low temperatures, even in the absence of an external magnetic field. A relatively weak dc magnetic field of a definite direction strongly increases the resonance absorption. Linearly polarized resonance radiation produces dynamic magnetization as well as electric and spin currents. The effect strongly depends on the external magnetic field.

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