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Non-equilibrium spin-transfer torque in voltage-biased SFS and SFNFS Josephson junctions ERHAI ZHAO, J. A. SAULS, Department of Physics and Astronomy, Northwestern University, Evanston, IL — We report theoretical results for the non-equilibrium spin current and spin-transfer torque in voltage biased SFS and SFNFS Josephson structures. We discuss the role and interplay of spin filtering, spin rotation and Andreev scattering. These processes lead to identifiable structures in the d.c. and a.c. components of the spin current and the spin-transfer torque. Our calculations are based on a recent formulation of the boundary conditions for non-equilibrium quasiclassical Riccati equations.[†]
[†] E. Zhao, T. Löfwander, and J. A. Sauls, Phys. Rev. B 70, 134510 (2004).

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