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FMR and voltage induced transport in normal metal-ferromagnet-superconductor trilayers HANS JOAKIM SKADSEM, ARNE BRATAAS, Department of Physics, Norwegian University of Science and Technology, NO-7491 Trondheim, Norway, JAN MARTINEK, Institute of Molecular Physics, Polish Academy of Science, 60-179 Poznan, Poland — In recent years, hybrid nanoscale circuits containing normal conductors, ferromagnets, and superconductors have been realized. These structures allow observation and understanding of the competition between ferromagnetism and superconductivity. In this talk, we consider charge and spin transport in normal metal-ferromagnet-superconductor trilayers induced by bias voltage and/or magnetization precession. Transport properties are discussed in terms of time-dependent scattering theory. We compute the charge and spin current response to bilinear order in precession frequency and bias voltage and express the results in terms of spin-dependent conductances. Simplified conductance expressions are obtained when the ferromagnet is longer than the transverse spin coherence length.

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