

Towards low-dissipation information processing with spin currents

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This talk describes proposals to generate AC spin currents (magnonics) and long-range DC spin currents in superconducting spintronics for implementation in low-dissipation information processing. With edge spin wave based magnonics we contribute to resolve the challenge of truly broadband, local excitation based magnonics with effective redirection and control of spin waves. With spin-orbit interaction based superconducting spintronics we aim on the effective incorporation of superconductor-ferromagnet building blocks into conventional electron symmetry filtering based spin electronics.

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