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Spin propagation in vacuum and in two-dimensional electronic systems JEAN-FRANCOIS VAN HUELE, BAILEY HSU, Brigham Young University — The spin degree of freedom is an important tool to understand and manipulate the complexity of quantum systems. It is also a physical system that is evolving in space and time and gives rise to spin currents that may or may not be associated with the dynamics of electromagnetic particles. We review the ways at our disposal to describe and analyze space-time evolution of single and multiple spins in electromagnetic fields that are either externally applied in vacuum or that are generated in confined environments through spin-orbit couplings.

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