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Spin transport and superconductivity in half-metallic nanowires and junctions

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Spin Transport and Superconductivity in Half-metallic Nanowires and Junctions

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About the cover: Science is founded upon the replication of natural phenomena and artificial creations. In this thesis, our research revolves around half-metallic $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ (LSMO), which does not exist naturally. However, an intriguing parallel can be observed between the photograph of a sandy beach captured in Noordwijk, the Netherlands, and the morphology of epitaxial LSMO observed in the lab. The interplay of natural elements such as waves and wind (plasma), the ocean (target), the land (substrate), and the accretion (deposition) subtly mimics our experimental process.

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To my grandfather

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