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Magnetization reversal by the pulse of external magnetic field in rf-SQUID with Phi-0 Josephson junction

We study magnetization reversal in a rf-SQUID with Phi-0 Josephson junction. Our simulations of magnetic moment dynamics show that by applying an external magnetic field pulse, we can realize the full magnetization reversal. We propose different protocols of full magnetization reversal based on the variation of the Josephson junction and pulse parameters, particularly, magnetic field pulse amplitude, damping of magnetization and spin-orbit interaction. We discuss experiments which can probe the magnetization reversal in the similar junctions.

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