

# On the noncommutative spectral flow

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**Abstract.** We define and study the noncommutative spectral flow for paths of regular selfadjoint Fredholm operators on a Hilbert  $C^*$ -module. We give an axiomatic description and discuss some applications. One of them is the definition of a noncommutative Maslov index for paths of Lagrangians, which appears in a splitting formula for the spectral flow. Analogously we study the spectral flow for odd operators on a  $\mathbb{Z}/2$ -graded module.

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