

# Spectral Flows of Dilations of Fredholm Operators

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*Abstract.* Given an essentially unitary contraction and an arbitrary unitary dilation of it, there is a naturally associated spectral flow which is shown to be equal to the index of the operator. This result is interpreted in terms of the  $K$ -theory of an associated mapping cone. It is then extended to connect  $\mathbb{Z}_2$  indices of odd symmetric Fredholm operators to a  $\mathbb{Z}_2$ -valued spectral flow.