

## Abstract

In 1998, Dai Xianzhe and Zhang Weiping generalised the spectral flow to the family case, the so-called Dai-Zhang higher spectral flow, which has a profound impact on the development of the index theory. Recently, we find that the higher spectral flow appears naturally in the study of differential K-theory and plays an important role. In this talk we will explain the relations between the Dai-Zhang higher spectral flow and differential K-theory and discuss some further developments.