

- 講演者：Jürgen Eichhorn 氏 (Ernst-Moritz-Arndt Universität Greifswald, Germany)
 - 題目□Relative index theorems and analytic torsion for open manifolds
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(DVI file)

For non-negative elliptic differential operators on closed manifolds, we have a well-established index theory and the notion of analytic torsion. On open manifolds, this becomes wrong since such operators must not have a finite dimensional kernel and cokernel and the spectrum must not be purely discrete. But there is a possibility to establish a similar theory for pairs of operators D, D' , where D' is an appropriate perturbation of D . We consider pairs D^2, D'^2 , where D, D' are generalized Dirac operators (e.g. Laplace operators) and D' is an appropriate perturbation of D . Doing this, there arise two canonical questions:

1. what are appropriate perturbations and
2. is $e^{-tD^2} - e^{-t\tilde{D}'^2}$ a trace class operator,

where $\tilde{D}'$ is a certain transformation of D' ? We answer these two questions and establish in fact a very general relative index and analytic torsion theory.



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2 images

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