

**Meeting:** 999, Nashville, Tennessee, SS 7A, Special Session on Operator Theory on Function Spaces

999-47-10            **Xiang Fang\*** ([xfang@gp.as.ua.edu](mailto:xfang@gp.as.ua.edu)), University of Alabama, Mathematics Department,  
Tuscaloosa, AL 35487. *Fredholm theory for an  $n$ -tuple of commuting operators*. Preliminary report.

The subject is multivariable Fredholm theory, i.e., a Fredholm theory for tuples of commuting operators. Our approach is that Fredholm theory can be studied as a homology theory, even for a single operator on a Hilbert space.

In this talk we focus on the two variable case. We propose a general scheme to calculate the Fredholm index of a pair of commuting operators by introducing some refined invariants. Examples will be given to illustrate the connection with function-theoretic Operator Theory. (Received May 10, 2004)