



FMSP Lectures

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L^2 Extension and its applications: A survey

February 16 (Tue), 17(Wed) , 18(Thu) 10:00 ~ 11:00
Room 002

Abstract:

We discuss certain aspects of the theory of L^2 extension, going back to the famous and fundamental work of Ohsawa and Takegoshi, and even further back to work of Donnelly and Fefferman.

The first of three lectures will recall a number of L^2 extension theorems, to some extent following an incomplete history (as I see it), and ending with a sketch of a proof of one of these theorems.

The second lecture will discuss a number of my favorite applications of L^2 extension, from Bergman kernels to deformation invariance of plurigenera.

The third lecture will discuss a new proof of the extension theorem, due to Berndtsson and Lempert. The key tool is a theorem of Berndtsson on the positivity of direct images, which we will review. Berndtsson's theorem permits the introduction of degeneration techniques, whose surprising application to L^2 extension represents one of the most beautiful and fundamental recent breakthroughs in the subject.

※ These lectures will be given as part of [“Workshop on \$L^2\$ Extension Theorems”](#).