國立中山大學應用數學系

學術演講

講　者：石洛宜 教授

天津工業大學數學系

講　題：The structure of nuclear operators

時　間：2017/04/06（Thursday）15:30 ~ 16:30 pm

地　點：理學院四樓理 SC 4009-1 室

茶　會：15:00 於理 SC 4010 室 (系辦公室)

Abstract

Assume H is a separable complex Hilbert space, $T \in B(H)$ is called a nuclear operator, if the smallest C^*-subalgebra $C^*(T)$ of $B(H)$ which contains T is nuclear. The concept of nuclearity for general C^*-algebras is first introduced by Takesaki, it is a fundamental in the study of C^*-algebras. However, when does the C^*-algebra which is generated by an operator on separable complex Hilbert space is nuclear, the theory is much less developed. We get that the set of operators which is similar to a nuclear operator is dense in $B(H)$, but the set of non-nuclear operators is also dense in $B(H)$. Moreover, we have that the nuclearity of operators is unstable under similarity, and then we discuss the structure of the operators for which the nuclearity is stable or unstable under similarity, and we obtain that if $T \in B(H)$, the closures of similarity orbits of T are all nuclear if and only if T is a polynomially compact operator of order two. At last, we discuss the nuclearity of special classes of operators such as n-essential normal, partial isometry, polynomially compact, weighted shifts and operator-valued weighted shifts operators.

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