國立交通大學應用數學系
學術演講公告

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講　題：Preservation of essential metrical range

時　間：107 年 6 月 5 日(星期二) 下午 2:00 –3:00

地　點：(光復校區) 科學一館 223 室

茶　會：當天下午 1:30 (科學一館 205 室)

Abstract

Let $\mathbf{A} = (A_1, \ldots, A_m)$ be an m-tuple of bounded linear operators acting on an infinite dimensional Hilbert space H. The qth matricial range of $\mathbf{A}$ is the collection of $(B_1, \ldots, B_m) \in M_q^m$ such that $B_j = X^* A_j X$ for some partial isometry X such that $X^* X = I_q$. The essential q-matricial range of $\mathbf{A}$ is the intersection of the closure of the q-matricial range of $\mathbf{A} + \mathbf{K}$, where $\mathbf{K}$ ranges over all m-tuple of compact operators. We show that for any positive integer N there is an m-tuple of compact operators $\mathbf{F}$ such that the closure of the qth matricial range of $\mathbf{A} + \mathbf{F}$ equals the essential qth matricial range of $\mathbf{A}$ for all $q \le N$. Moreover, if $A_1, \ldots, A_m$ are self-adjoint and the essential qth matricial range of $\mathbf{A}$ is a simplex in $\mathbf{R}^m$, then there is an m-tuple of self-adjoint compact operators $\mathbf{F}$ such that the closure of the qth matricial range of $\mathbf{A} + \mathbf{F}$ equals the essential qth matricial range of $\mathbf{A}$ for all positive integer q.

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