


复旦大学数学科学学院

数学综合报告会

报告题目：On the quasi-similarity of operators with flag structure

报告人：纪奎 教授 (河北师范大学)

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报告摘要：

Let $\mathcal{A}$ denote by the operator class satisfying that for any two operators $T, \tilde{T}$ in $\mathcal{A}$, the non-zero operator intertwining T and $\tilde{T}$ has dense range.

Then by taking the operators in $\mathcal{A}$ as atoms and using the flag structure as bonding, we introduce a new operator class, denoted by $\mathcal{F}_{n}(\mathcal{A})(n\in \mathbb{N})$. For operators with certain properties in the new class, we prove that the operator matrix of the intertwining operator is of the upper-triangular form. According to this critical result, we firstly show that the strongly irreducible operators in new class preserve strong irreducibility under quasi-similarity, which gives a partial answer to the question proposed by C.L. Jiang in \cite{JW}. Also, when $\mathcal{A}$ is weighted backward shift operators class, we prove that the quasi-similarity between operators in this new class implies the similarity relation, which partially answers the question proposed by D.A. Herrero in \cite{Herrero}. Finally, we describe some properties of intertwining operators in term of geometric language.

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中法应用数学国际联合实验室
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