

Departmental Colloquium

The algebra of bounded linear operators on $\ell_p \oplus \ell_q$, $1 < p < q < \infty$ has infinitely many closed subideals

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Abstract: For a Banach space X we consider $\mathcal{L}(X)$, the algebra of linear bounded operators on X . A closed subideal of $\mathcal{L}(X)$, is a subideal which is closed in the operator norm. For very few Banach spaces X the structure of the closed subideals of $\mathcal{L}(X)$ is well understood. For example it is known for a long time that the only non trivial closed subideals of $\mathcal{L}(\ell_p)$ (other than the zero ideal and the entire algebra) is the ideal of compact operators.

In his book "Operator Ideals" Albrecht Pietsch asked about the structure of the closed subideals of $\mathcal{L}(\ell_p \oplus \ell_q)$, the space of operators on the complemented sum of ℓ_p and ℓ_q , where $1 \leq p < q \leq \infty$. In particular he asked if there are infinitely many closed subideals. This question was recently solved affirmatively for the reflexive range $1 < p < q < \infty$, in a joint work by the author in collaboration with Andras Zsak.

Tea at 4:15 in SEO 300

Friday, April 15 at 3:00 PM in SEO 636
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