Boğaziçi
MATH COLLOQUIUM

Approximation Numbers of Differences of Composition Operators

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Abstract:

The component structure of the space of bounded composition operators is a widely studied area and in order to understand whether two composition operators belong to the same connected component of the space, it is important to understand how their difference behaves (compact, bounded etc.). One of the key elements in understanding this behavior is to consider approximation numbers since they give us the information about how much our operator differs from a bounded/compact one. In this talk we will consider the approximation numbers of differences of composition operators acting on the Hardy-Hilbert space $H^2(\mathbb{D})$ and will see how boundary behavior of the symbols of composition operators affects the approximation numbers. We will also mention how these one dimensional results can be employed to understand the approximation numbers of differences of composition operators on the space $H^2(\mathbb{D}^2)$ of the bidisc.
(Joint work with Frédéric BAYART and Clifford GILMORE of Laboratoire de Mathématiques Blaise Pascal)

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