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von Neumann's inequality for commuting weighted shifts

Abstract

The failure of von Neumann's inequality for three commuting contractions has been known since the seventies, thanks to examples of Kaijser-Varopoulos and Crabb-Davie. Nevertheless, this phenomenon is still not well understood.

I will talk about a result which shows that von Neumann's inequality holds for a particularly tractable class of commuting contractions, namely multivariable weighted shifts. This provides a positive answer to a question of Lubin and Shields from 1974. As an application, we see that there is no "nice" Hilbert function space which is to commuting contractions as the Drury-Arveson space is to commuting row contractions.

Talk time: 07/18/2016 3:30PM— 07/18/2016 3:50PM
Talk location: Crow 206

Special Session: Multivariable operator theory. Organized by H. Woerdeman.