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Title: On distinguished varieties

Abstract:

The distinguished varieties in the bidisc have been in the focus of recent research due to their contribution in sharpening Ando's inequality. This is interesting because it brings together algebraic geometry and operator theory. Agler and McCarthy gave a description of all distinguished varieties of the bidisc. It involved matrix valued rational inner functions. We have related distinguished varieties to joint spectra of matrices. In turn, this has implications about distinguished varieties of the symmetrized bidisc. En route, the realization formula for bounded analytic functions on the open unit disc plays a role. Thus, this talk will be on both complex analysis and operator theory on Hilbert spaces. This work is available at [10.2140/apde.2022.15.477](https://arxiv.org/abs/2001.01410) and <https://arxiv.org/pdf/2001.01410.pdf>.