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Non-commutative Clark measures for the free and abelian Toeplitz algebras

In the classical theory of Hardy spaces, there is a natural bijection between the Schur class of contractive analytic functions in the complex unit disk and Aleksandrov-Clark measures on the unit circle. A canonical several-variable analogue of Hardy space is the Drury-Arveson space of analytic functions in the unit ball of d -dimensional complex space. Drury-Arveson space can be naturally identified with symmetric Fock space, and under this identification, the canonical non-commutative or free analogue of several-variable Hardy space is the full Fock space over d -dimensional complex space.

We will extend the concept of Aleksandrov-Clark measure, the bijection between the Schur class and Aleksandrov-Clark measures, Clark's unitary perturbations of the shift and several associated results to the multi-variable Schur classes (the closed unit balls of the analytic Toeplitz algebras) for Drury-Arveson and Fock space.