

## Schoenberg Correspondence and Semigroup of $k$ -(super)positive Operators

*jeudi 1 décembre 2022 16:00 (45 minutes)*

The famous Lindblad, Kossakowski, Gorini, and Sudarshan's (LKGS) theorem characterizes the generator of a semigroup of completely positive maps. Motivated by this result we study the characterization of the generators of other positive maps e.g.  $k$ -positive and  $k$ -super positive maps. We prove a Schoenberg-type correspondence for a general non-unital semigroup of operators and apply this result to different cones of positive operators in  $L(M_n, M_n)$  which are interesting for quantum information. As a corollary of our result, we re-establish the LKGS's theorem.

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