

# Completely positive definite functions on a commutative semigroup with involution

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In this talk we give a Stinespring type characterization of a class of completely positive definite functions defined on a commutative semigroup with involution and without unity. This characterization is an extension of a result on the completely positive definite functions defined on a commutative semigroup with involution and unity proved by Berg and Maserick. Our proof is independent of Naimark's theorem. We also use this characterization to prove a dilation theorem.