

# Positive maps on operator algebras - some problems and solutions

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In the last decade, the theory of positive maps on operator algebras has gained increased importance as it has been shown to have numerous applications in quantum information theory. One of the intensively studied recently problems is the question of the existence of entangled PPT states with high Schmidt number. In the language of positive maps, this is equivalent to the existence of indecomposable  $k$ -positive maps for large values of  $k$ . We will show how the theory of normal operators can be used to attack this problem.