

Peripheral Poisson boundary

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" It is shown that the operator space generated by peripheral eigenvectors of a unital completely positive map on a von Neumann algebra has a C^* -algebra structure. This extends the notion of non-commutative Poisson boundary by including the point spectrum of the map contained in the unit circle. The main ingredient is dilation theory. This theory provides a simple formula for the new product. The notion has implications to our understanding of quantum dynamics. For instance, it is shown that the peripheral Poisson boundary remains invariant in discrete quantum dynamics. This talk is based on a joint work with Samir Kar and Bharat Talwar."