BENOIT COLLINS, University of Ottawa / AIMR
Free probability and quantum information theory

We are interested in the behavior of typical quantum channels with large input space and small output space. We show that the output set of these quantum channels is almost deterministic, and that it can be described through free probability techniques. We compute the minimum output entropy of these typical quantum channels, and as an application, we obtain new bounds for the violation of the minimum output entropy. This is a report on joint works with S. Belinschi and I. Nechita.