

Quantum Channels and Representation Theory

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Abstract:

I will generalize the Pauli Matrices to the Gell Mann Matrices. I will discuss some identities of the Gell Mann Matrices. I will discuss Lie Algebras. I will discuss the generators of a Lie Algebra. I will discuss Ritter's decomposition of a density matrix into a polynomial in symmetrized products of Lie algebra generators. I will show how this representation facilitates computations relating to the additivity conjecture.