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Classical sampling theory considers the recovery of a bandlimited function from its values on an sufficiently fine lattice in the real numbers. This methodology can be extended to allow for the recovery of so-called bandlimited operators from their action on a single input signal, a distribution supported on a lattice in the real numbers.

After a short recap of sampling of operator theory we shall discuss the recovery of operators that are known to satisfy linear constraints. Further, we discuss the problem of transmitting information through an unknown channel operator that has not been identified/sampled yet. (Received September 16, 2020)