# Sampling Bandlimited Graph Signals

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We consider the problem of sampling $k$-bandlimited graph signals, *i.e.*, linear combinations of the first $k$ graph Fourier modes [1, 2, 3]. We know that a set of $k$ nodes embedding all $k$-bandlimited signals always exists, thereby enabling their perfect reconstruction after sampling. We propose a novel random sampling strategy based on determinantal point processes, that is more efficient than the state-of-the-art greedy options, while still provably enabling perfect reconstruction [4]. All these solutions (whether determinantal or greedy) require the partial diagonalization of the Laplacian matrix. In cases where this partial diagonalization is not an option for computational purposes, we propose an approximated sampling algorithm based on polynomial filtering of random signals.

## Références

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