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Christina Frederick* (christin@njit.edu). *Reconstructions and stability estimates for higher dimensional sampling.*

We consider sampling strategies for a class of multivariate Ω -bandlimited functions, where $\Omega \subset \mathbb{R}^d$ is a bounded set that is a k -tiling of \mathbb{R}^d when translated by the lattice $\Lambda = \mathbb{Z}^d$. We show that the reconstruction can be viewed as an iterative process involving certain Vandermonde matrices, resulting in a link between the invertibility of these matrices to the existence of certain sampling sets that guarantee a unique recovery. Estimates of inverse Vandermonde matrices can then be used to provide explicit L^2 -stability estimates. (Received January 21, 2018)