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David F Walnut* (dwalnut@gmu.edu), Department of Mathematical Sciences, MSN 3F2, George Mason University, Fairfax, VA 22030. *Construction of Sampling Theorems for Unions of Shifted Lattices.*

The classical sampling theorem permits reconstruction of a bandlimited function from its values on a lattice. This work considers sampling sets which are unions of possibly different shifted lattices. The approach is based on finding suitable decompositions $K = K_0 \cup K_1$ of the bandregion K of f . It is demonstrated how the decompositions can be used to construct sampling theorems or recursive reconstruction algorithms. This is joint work with Adel Faridani and Hamid Behmard. (Received September 06, 2006)