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Stephen D. Casey* (profstephencasey@gmail.com), Math/Stat Department, American University, 4400 Massachusetts Avenue, N.W., Washington, DC 20016-8050. Deconvolution and Sampling on Non-Commensurate Lattices via Complex Interpolation Theory.

Solutions to the analytic Bezout equations associated with certain multichannel deconvolution problems rest upon the strongly coprime condition. We first describe this condition, and show that it is a natural setting in which to solve deconvolution problems. Our solutions are developed via interpolation on unions of non-commensurate lattices. They provide insight into how one can develop general sampling schemes on properly chosen non-commensurate lattices. We will give specific examples of these types of lattices, and use a generalization of B. Ya. Levin's sine-type functions to develop interpolating formulae. We close by exploring the stability of these formulae to sample jitter and additive signal noise. (Received September 08, 2009)