1000-42-107   **Stephen Casey*** (`scasey@american.edu`), Department of Mathematics and Statistics, American University, 4400 Massachusetts Ave., NW, Washington, DC 20016-8050. *Non-Uniform Sampling Schemes in Rectangular and Radial Domains.*

Solutions to 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 in both rectangular and radial regions. 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 or unions of properly chosen radial domains. 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 August 19, 2004)