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In this talk, we are concerned with multi-variate Hardy-type lattice point identities from which space-dependent Shannon-type sampling theorems can be obtained by straightforward integration over certain regular regions. An answer is given to the problem of how a signal bandlimited to a regular region in multi-dimensional Euclidean space allows a reconstruction from discrete values in the lattice points of a (general) lattice.

The talk is based on the paper “Multi-variate Hardy-type lattice point summation and Shannon-type sampling” by W. Freeden, M.Z. Nashed, GEM Int J Geomath, 2015, DOI 10.1007/s 131037-015-0076-6. (Received September 23, 2015)