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*A multidimensional distribution sampling theorem*

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**Abstract:** Using Bochner-Riesz means we get a multidimensional sampling theorem for band-limited functions with polynomial growth, that is, for functions which are the Fourier transform of compactly supported distributions.

**Keywords:** sampling theorem, distributions, Fourier transform

**AMS Subject Classification:** Primary 42B10; Secondary 46F12

REFERENCES

- [1] González Vieli F.J., *Inversion de Fourier ponctuelle des distributions à support compact*, Archiv Math. **75** (2000), 290–298.
- [2] Higgins J.R., *Five short stories about the cardinal series*, Bull. Amer. Math. Soc. **12** (1985), 45–89.
- [3] Liu Y., *A distributional sampling theorem*, SIAM J. Math. Anal. **27** (1996), 1153–1157.
- [4] Stein E.M., Weiss G., *Introduction to Fourier Analysis on Euclidean Spaces*, Princeton University Press, Princeton, N.J., 1971.
- [5] Walter G., *Sampling band-limited functions of polynomial growth*, SIAM J. Math. Anal. **19** (1988), 1198–1203.
- [6] Walter G., *Abel summability for a distribution sampling theorem*, in Generalized Functions, Convergence Structures, and their Applications (B. Stanković e.a. editors), Plenum Press, New York, 1988, pp.349–357.
- [7] Watson G.N., *A Treatise on the Theory of Bessel Functions*, Cambridge University Press, Cambridge, 1922.