

Why the Theorem of Scheffé should be rather called a Theorem of Riesz

Norbert Kusolitsch

Technische Universität Wien

In 1947 Henry Scheffé published a result which afterwards became known as Scheffé's theorem, stating that the distributions of a sequence (f_n) of densities, which converge almost surely to a density f , converge uniformly to the distribution of f . But almost 20 years earlier Frigyes Riesz proved a sufficient condition for convergence in the p -th mean ($p \geq 1$), wherefrom the Scheffé theorem is just a special case.

References

- [1] Duren, P. (1970). *Theory of H^p Spaces*. Academic Press, New York, 1970, pp 21–22.
- [2] Hewitt, E. - Stromberg, K. (1965). *Real and Abstract Analysis*. Springer, New York, 1965, pp 207–209.
- [3] Littlewood, J. E. (1944). *Lectures of the Theory of Functions*. Oxford University Press, Oxford, 1944, pp 34–35.
- [4] Novinger, W. P. (1972). *Mean Convergence in L^p Spaces*. Proc. Am. Math. Soc, 1972, Vol. 34, No. 2, pp 627–628.
- [5] Riesz, F. (1928). *Sur la convergence en moyenne*. Acta Sci. Math, 1928, Vol. 4, pp 58–64.
- [6] Scheffé, H. (1947). *A Useful Convergence Theorem for Probability Distributions*. Ann. Math. Stat, 1947, Vol. 18, No. 3, pp 434–438.