

A new look on Korovkin Theorem

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Giving a sequence $P = (P_n)_n$ of kernels on a measurable space (or just a semigroup $(P_t)_{t \in (0, \infty)}$) we are interested to describe the "semi-excessive" functions w.r. to P , i.e. measurable functions f such that $\lim_{n \rightarrow \infty} P_n(f) = f$ (or $\lim_{t \rightarrow 0} P_t(f) = f$).

We extend in this frame the famous Korovkin result on the uniform convergence of $P_n(f)$ to f on a class of measurable functions f , but beside that, we give a pointwise convergence result which may be a useful tool in Probabilistic Potential Theory as well Right Processes.

References

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