

Free Completely Random Measures

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SUMMARY

Free probability was initiated by Voiculescu around 1986 and it is a noncommutative probability theory in which the concept of independence of classical probability is replaced by the concept of freeness [2]. In 1999 an important connection between free and classical infinitely divisibility was established by Bercovici and Pata in form of a bijection, mapping the class of classical infinitely divisible laws into the class of free infinitely divisible laws [1, 3].

Our purpose is to derive, in the framework of free probability, a characterization of typical objects in nonparametric Bayesian statistics. In particular, we will focus on the construction of the free infinitely divisible law corresponding to a classical completely random measure.

Keywords: Bercovici-Pata bijection, free completely random measures, free probability

AMS Classification: 60G57, 60E07, 46L54

References

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