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Bi-free probability and entropy.

Bi-free probability was introduced by Voiculescu in 2013 as a generalization of free probability to study the joint distributions of families “left” and “right” random variables simultaneously. I will briefly introduce the framework of bi-free probability, and discuss an ongoing project to extend the techniques of non-microstates free entropy to the bi-free setting, difficulties encountered along the way, and peculiarities arising in this more general setting which are not present in the free case. The results discussed are joint work with Paul Skoufranis.