Institut für Diskrete Mathematik

Vortrag im Seminar für Kombinatorik und Optimierung

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Concentration properties of the height and fill-up-level of digital search trees

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The height and fill-up-level of trees are important and well-studied parameters. Depending on the underlying stochastic model these parameters behave differently, however, in many cases they are highly concentrated. The purpose of this talk is to discuss symmetric and asymmetric digital search trees, where height and fill-up-level are concentrated (with high probability) at one or two levels, that is, they behave (almost) deterministically. The mathematical analysis for obtaining such stong concentration results is highly involved and makes use of a concatenation of three transforms: Poisson transform, Mellin transform, and a (second) power series expansion - and each of them have to be inverted with complex analytic methods.

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