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On the lower bounds of random MAX 3 and 4-SAT. (English) [Zbl 07048093](#)

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Summary: A k -CNF formula is said to be p -satisfiable if there exists a truth assignment satisfying a fraction of $1 - 2^{-k} + p2^{-k}$ of its clauses. We obtain better lower bounds for random 3 and 4-SAT to be p -satisfiable. The technique we use is a delicate weighting scheme of the second moment method, where for every clause we give appropriate weight to truth assignments according to their number of satisfied literal occurrences.

For the entire collection see [\[Zbl 1407.68047\]](#).

MSC:

[68Wxx](#) Algorithms in computer science

Keywords:

[maximum satisfiability](#); [the second moment method](#); [weighting scheme](#)

Software:

[MAX-2-SAT](#)

Full Text: [DOI](#)

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