1120-05-296 Patrick Bennett* (patrick.bennett@wmich.edu) and Mike Molloy (molloy@cs.toronto.edu). Space bounds for resolution in random (2+p)-SAT.

Resolution is a rule of inference for boolean formulas in conjunctive normal form, and it can be used to prove that a formula is unsatisfiable (such a proof is called a resolution refutation). The resolution space of an unsatisfiable formula is the amount of memory required to verify a resolution refutation. A (2 + p)-SAT formula consists of clauses of size 2 and 3. We show that a random (unsatisfiable) instance of (2 + p)-SAT on n variables has resolution space quadratic in n. This is worst possible, up to a constant. (Received February 23, 2016)