

Complexity Theory Newsflash

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The following people have independently proved that $P = NP$. Here are the titles of their papers.

- A. Selman. SAT is P-selective.
- R. Beigel. $PP^{NP} = PP$.
- L. Hemaspaandra. The weak exponential hierarchy collapses.
- S. Toda. $PH \subseteq PP$.
- M. Kummer. The bounded query hierarchy over NP collapses.
- R. Solovay. $Con(PA) \rightarrow Con(PA + "P = NP")$.
- S. Homer. The m -complete degree for NEXP is a 1-li degree.
- K.-I Ko, T. Long, and D.-Z. Du. All 1-li degrees collapse.
- L. Berman. All EXP-complete sets are isomorphic.
- R. Ladner. There are no NP-intermediate sets.
- J. Feigenbaum. SAT is random-self-reducible.
- E. Allender and R. Rubinfeld. Every sparse set in P is P-printable.
- J. Toran. GI is in co-NP.
- S. Arora. A $(1 + \epsilon)$ -approximation scheme for general TSP.
- A. Razborov. A generalization of monotone lower bounds.
- W. Gasarch. SAT is not P-superterse.
- M. Sipser. Clique has uniform polynomial-size nonmonotone circuits.
- J. Goldsmith. Limited nondeterminism does not help.
- J. Hartmanis. Berman's conjecture fails.
- J. Lutz. NP has measure 0 in E.
- S. Fenner. The NP-jump is not invertible.
- N. Nisan. BPP can be simulated in polynomial deterministic time.
- U. Schöning. Vertex cover is in the low hierarchy.
- J. Köbler. Vertex cover is in the extended low hierarchy.
- N. Immerman. $SO = FO_{\leq} + LFP$.
- L. Fortnow. $P = NP$ with respect to a finite oracle.
- S. Mahaney. SAT many-one reduces to a sparse set.
- M. Ogihara and O. Watanabe. SAT btt reduces to a sparse set.
- M. Kearns. Circuits are PAC-learnable.

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M. Sudan. $NP = PCP(0, 0)$.

C. Lund. The constant is 0.

S. Kurtz, S. Mahaney, and J. Royer. Even further results on collapsing degrees.

A. Condon. Every NP set has an interactive proof with a prover in P.

L. Longpre. Some new results on time-bounded Kolmogorov complexity.