



Question

Prof. Lovasz believes that

Let $A=(a_{ij})_{ij=1}^n$, where

$$a_{ij} = \begin{cases} 1 & \text{if } i|j \text{ or } j = 1 \\ 0 & \text{otherwise} \end{cases}$$

Then $\det(A) = O(\sqrt{n})$.

is the most important conjecture in Algebraic Graph Theory.

This conjecture is equivalent to one of the most celebrated conjectures of mathematics; What is **your** guess?

From Mathematical Apocrypha



Paul Erdős never liked the government, nor any form of authority. He was dreadfully upset with the state of affairs in the early 1950s in the United States when McCarthy era took hold. In those days, the FBI kept a large file on Paul Erdős; they particularly did not like the fact that he corresponded with scientists in Hungary and China.

In 1954, Paul Erdős was invited to speak at the International Congress of Mathematicians (ICM) in Amsterdam. Of course this is a very great honor, and Paul was eager to go. At the time the invitation arrived, Paul was visiting at the University of Notre Dame. The Immigration Service sent an officer to the Math Department there to grill him on his political leanings.

"What is your opinion of Marx?" queried the officer. "I do not feel competent to judge Marx," said Paul Erdős. "Because I have read only The Communist Manifesto by him. But I do believe he was a great philosopher."

Paul Erdős was then asked whether he would visit Hungary if the Hungarian authorities guaranteed that he could leave the country whenever he wished. "Of course I would!" he replied. "My mother lives there as well as some of my best friends."

Paul's visa application was denied. He decided to go to the ICM anyway. He determined to pack up his meager possessions and simply quit the United States—for an indeterminate period of time. His American friends begged him to stay, to wait a year and submit another visa application. Paul was intransigent. He spent his last night in the U.S. with Harold Shapiro (1928—), who begged him not to go. Shapiro was quite aggressive, and very critical of Paul Erdős's decision: "I should knock you on the head and tie you up to stop you from leaving!" cried Harold. But Paul Erdős remained steadfast. "O.K., then tie me up!" was his reply. His case was reconsidered many years later in 1963.

Paul Erdős had analogous problems with the Hungarian authorities in 1973. As a result, he was unable to return to Hungary (his native land!) until 1976.

Some Books by Some of the Invited Speakers of the

First IPM Conference on Algebraic Graph Theory

Brualdi

- Richard A. Brualdi, *Combinatorial matrix classes*, Encyclopedia of Mathematics and its Applications, 108, Cambridge University Press, Cambridge, 2006.
- Richard A. Brualdi and Bryan L. Shader, *Matrices of sign-solvable linear systems*, Cambridge Tracts in Mathematics, 116, Cambridge University Press, Cambridge, 1995.
- Richard A. Brualdi, *Introductory combinatorics*, Second edition, North-Holland Publishing Co., New York, 1992.
- Richard A. Brualdi and Herbert J. Ryser, *Combinatorial matrix theory*, Encyclopedia of Mathematics and its Applications, 39, Cambridge University Press, Cambridge, 1991.

Godsil

- Chris Godsil and Gordon Royle, *Algebraic graph theory*, Graduate Texts in Mathematics, 207, Springer-Verlag, New York, 2001.
- C. D Godsil, *Algebraic combinatorics*, Chapman and Hall Mathematics Series, Chapman & Hall, New York, 1993.

Gutman

- Dragoš M. Cvetković, Michael Doob, Ivan Gutman, and Aleksandar Torgašev, *Recent results in the theory of graph spectra*, Annals of Discrete Mathematics, 36, North-Holland Publishing Co., Amsterdam, 1988.
- Ivan Gutman and Oskar E. Polansky, *Mathematical concepts in organic chemistry*, Springer-Verlag, Berlin, 1986.

Lovasz

- László Lovász, J. Pelikán, and K. Vesztegombi, *Discrete mathematics, Elementary and beyond*, Undergraduate Texts in Mathematics, Springer-Verlag, New York, 2003.
- László Lovász, *Combinatorial problems and exercises*, Second edition, North-Holland Publishing Co., Amsterdam, 1993.
- Martin Grötschel, László Lovász, and Alexander Schrijver, *Geometric algorithms and combinatorial optimization*, Second edition, Algorithms and Combinatorics, 2, Springer-Verlag, Berlin, 1993.
- Bernhard Korte, László Lovász, and Rainer Schrader, *Greedoids*, Algorithms and Combinatorics, 4, Springer-Verlag, Berlin, 1991.
- László Lovász, *An algorithmic theory of numbers, graphs and convexity*, CBMS-NSF Regional Conference Series in Applied Mathematics, 50, Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA, 1986.
- László Lovász, *Combinatorial Problems and Exercises*, Second edition: North-Holland Publishing Co., Amsterdam, 1993.
- László Lovász, M. D. Plummer, *Matching theory*, North-Holland Mathematics Studies, 121, Annals of Discrete Mathematics, 29, North-Holland Publishing Co., Amsterdam, 1986.
- Ronald L. Graham, Martin Grötschel, and László Lovász, *Handbook of Combinatorics*, Elsevier Science B.V., 1995.

Mohar

- Bojan Mohar and Carsten Thomassen, *Graphs on surfaces*, Johns Hopkins Studies in the Mathematical Sciences, Johns Hopkins University Press, Baltimore, MD, 2001.

Rowlinson

- Dragoš M. Cvetković and Peter Rowlinson, and Slobodan Simić, *Spectral generalizations of line graphs, On graphs with least eigenvalue -2*. London Mathematical Society Lecture Note Series, 314. Cambridge University Press, Cambridge, 2004.
- Dragoš M. Cvetković, Peter Rowlinson, and Slobodan Simić, *Eigenspaces of graphs*, Encyclopedia of Mathematics and its Applications, 66, Cambridge University Press, Cambridge, 1997.

☺ *A good news!*

The issues of the Daily News (with pictures) are available on the conference website.

Daily Program

9:00-10:00	10:00-10:30	10:30-11:00	11:00-12:00	12:00-14:00
I. Gutman	H. Rahkooy	Coffee Break	Ch. Godsil (2)	Lunch
14:00-14:30	14:30-15:00	15:00-15:30	15:0-16:30	
S. Alikhani	H. Yousefi-Azari	Coffee Break	General Talk (L. Lovasz(2))	

Chairman of the morning session: Laszlo Lovasz

Chairman of the afternoon session: Reza B. Khosrovshahi

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