

Institut für Diskrete Mathematik

Vortrag im Seminar für Kombinatorik und Optimierung

Dienstag 4.6.2019, 14:15

Seminarraum AE06, Steyrergasse 30, Erdgeschoss

## On the exponents of extremal numbers

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The extremal number  $\text{ex}(n, F)$  of a graph  $F$  is the maximum number of edges in an  $n$ -vertex graph not containing  $F$  as a subgraph. A real number  $r \in [1, 2]$  is realisable if there exists a graph  $F$  with  $\text{ex}(n, F) = \Theta(n^r)$ . Erdős and Simonovits conjectured that every rational number in  $[1, 2]$  is realisable. We show that  $2 - \frac{a}{b}$  is realisable for any integers  $a, b \geq 1$  with  $b > a$  and  $b = \pm 1 \pmod{a}$ . This includes all previously known realisable numbers. This is joint work with Dong Yeap Kang and Hong Liu.

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