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**Zbl 807.05040****Erdős, Paul; Holzman, Ron***On maximal triangle-free graphs.* (In English)**J. Graph Theory 18, No.6, 585-594 (1994). [0364-9024]**

The paper examines maximal triangle-free graphs (i.e. graphs that cease to be triangle-free upon adding any new edge) with few edges, satisfying a constraint in the form of an upper bound on the degrees.

Let  $F(n, D)$  be the minimum number of edges of a maximal triangle-free graph on  $n$  vertices having maximal degree at most  $D$ . By continuing work done by Z. Füredi and Á. Seress, it is proven that

$$\lim_{n \rightarrow \infty} \frac{F(n, cn)}{n} = \begin{cases} (11 - 7c)/2 & \text{for } \frac{3}{7} \leq c < \frac{1}{2} \\ 4 & \text{for } \frac{2}{5} \leq c \leq \frac{3}{7} \end{cases}$$

which contradicts a conjecture of them.

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Classification:

05C35 Extremal problems (graph theory)

05C65 Hypergraphs

90C05 Linear programming

Keywords:

maximal triangle-free graphs; upper bound