ON THE JUMPING CONSTANT CONJECTURE OF ERDŐS

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Let $r \geq 2$ be an integer. A real number $\alpha \in [0, 1)$ is a jump for r if there exists constant $c > 0$ such that no number in $(\alpha, \alpha + c)$ is a Turán density of a family of r-uniform graphs. It follows from a fundamental result of Erdős and Stone that every $\alpha \in [0, 1)$ is a jump for $r = 2$. Erdős asked whether the same is true for $r \geq 3$. Frankl and Rödl gave a negative answer by giving some non-jumping numbers for $r \geq 3$. However, there are still a lot of unknowns on determining whether or not a number is a jump for $r \geq 3$. In this talk, some results will be presented.

The main result is based on a joint work with Frankl, Rödl and Talbot.