

## ***Rainbow Turán number of even cycles***

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**Time: Thursday, Aug 20th, 15:00 - 16:00**

**Zoom meeting ID: 663 102 94149 Password: 111317**

**Link: <https://zoom.com.cn/j/66310294149>**

**Abstract:** The rainbow Turán number  $ex^*(n, H)$  of a graph  $H$  is the maximum possible number of edges in a properly edge-coloured  $n$ -vertex graph with no rainbow subgraph isomorphic to  $H$ . We prove that for any integer  $k \geq 2$ ,  $ex^*(n, C_{2k}) = O(n^{1+1/k})$ . This is tight and establishes a conjecture of Keevash, Mubayi, Sudakov and Verstraëte. We use the same method to prove several other conjectures in various topics. For example, we give an upper bound for the Turán number of the blow-ups of even cycles, which can be used to disprove a conjecture of Erdős and Simonovits.