

# On the paintability number of $K_{n,n}$

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(joint work with Dániel Gerbner)

The notion of on-line choice number of a graph, which is called the paint number was introduced independently by Zhu and Schauz in 2009. It is natural to ask whether the difference between the choice and the paint number of a graph can be arbitrarily large. We do not answer this problem, however we show a new lower bound on the paint number of  $K_{n,n}$ , which is a good candidate to solve the question.