

## Planar graphs without cycle of length 4 or 5 are $(3, 5)$ -colorable

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A graph  $G$  is called  $(d_1, d_2, \dots, d_k)$ -colorable if the set of vertices can be partitioned into  $k$  sets  $V_1, V_2, \dots, V_k$  such that the induced subgraph  $G[V_i]$  for  $i \in [k]$  has the maximum degree at most  $d_i$ . This notion generalizes those of proper  $k$ -coloring (when  $d_1 = d_2 = \dots = d_k = 0$ ). In this talk, I will present that planar graphs without cycle of length 4 or 5 are  $(3, 5)$ -colorable.

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