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ACYCLIC 5-CHOOSABILITY OF PLANAR GRAPH WITHOUT ADJACENT SHORT CYCLES

The conjecture that every planar graphs is acyclically 5-choosable [Borodin et al., 2002] has been verified for several restricted classes of graphs. Recently, Borodin and Ivanova, [2011], proved that planar graphs are acyclically 5-choosable if they do not contain i -cycles adjacent to j -cycles, where $3 \leq j \leq 5$ if $i = 3$ and $4 \leq j \leq 6$ if $i = 4$. This work improves that result and proves that every planar graph without an i -cycle adjacent to a j -cycle with $3 \leq j \leq 5$ if $i = 3$ and $4 \leq j \leq 5$ if $i = 4$ is acyclically 5-choosable. This work is a joint project with Babak Farzad.