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Distance Matching in Planar Triangulations: some new results

In 2011, it was shown that in a 5-connected even planar triangulation G , every matching M of size less than $\frac{|V(G)|}{2}$ can be extended to a perfect matching of G , as long as the edges of M lie at distance at least 5 from each other.

Later in 2017, Kawarabayashi, Ozeki and the speaker proved a generalization of this result to other surfaces in which “holes” in the triangulation were allowed. However, the face-width of the embedded triangulation had to be at least 6.

Today we present a planar analogue of this result.