

Orientations and the combinatorics of planar maps

Orientations of planar maps have been introduced in the case of planar triangulations by Schnyder in the 60s and then generalized to all planar maps by Propp and Felsner. After defining the notion of orientations and giving some of their fundamental properties, I will show how they can be a powerful tool in the study of the combinatorics of planar maps by describing some bijections between maps and trees that rely strongly on the underlying natural orientations.

Finally, I will describe how planar orientations can be generalized to higher genus.

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