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Erratum

Rigidity of planar tilings

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Corollary 4 as stated is incorrect. In [3] we give a counterexample, a "non-polygonalizable" tiling problem with four tile types. The error in the proof is in the construction of the space describing the local structure of all tilings: this construction may in general have non-simplicial gluings, resulting in a non-Hausdorff quotient space.

As an alternative one can change the definition of equivalence of tiling problems. We say that two tiling problems A and B (in the sense of [2]) are *weakly equivalent* if there is a *symmetric relation* (not necessarily a bijection) between the tile types of A and B, with the property that for each tiling of a region using tiles from A there is a tiling of a region using related tiles from B, and having the same relative translations between tiles, (up to a global affine coordinate change).

A modification of the proof presented in [2] shows that any tiling problem with tiles which are topologically disks is weakly equivalent to a tiling problem with polygonal tiles (in the case of translation tiling problems) or tiles with piecewise-arc boundaries (in the case of isometry tiling problems).

For the original definition in [2], the article [3] gives information about which non-polygonal tiling problems can occur.

Corollary 5, whose proof in [2] relies on Corollary 4, is still true as stated, however: in [3] a finite invariant measure supported on the tile boundaries is constructed; this suffices to prove that corollary, see [1].

References

1. Beauquier, D., Nivat, M.: Tiling the plane with one tile LITP Paris VI (Preprint 1990)
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3. Kenyon, R.: A group of paths in $\mathbf{R}^2$. Institut Fourier (Preprint 1992)