

**Refinement of twisted Alexander invariants and
sign-determined Reidemeister torsions**

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Twisted Alexander invariants of knots are well-defined up to multiplication of units. We get rid of this multiplicative ambiguity via combinatorial method. We can show that the refined invariants coincide with sign-determined Reidemeister torsions associated to some Euler structures. As an application, for example, we obtain stronger necessary conditions for a knot to be fibered than those previously known.

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