# On the Richter-Thomassen Conjecture about Pairwise Intersecting Curves

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**Abstract**

Let $\Gamma$ be a family of $n$ closed Jordan curves in the plane, where any two curves are either tangent or properly intersecting. We discuss a long standing conjecture of Richter and Thomassen which suggests, in its somewhat stronger form, that the overall number of intersection points among the curves of $\Gamma$ must be strictly larger in asymptotic terms than the number of touching pairs of curves in $\Gamma$ (as $n$ tends to infinity).

We confirm the above conjecture in several important cases including $x$-monotone curves or, more generally, curves which can be decomposed into constantly many $x$-monotone pieces.

This is joint work in progress with János Pach and Gábor Tardos.

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