The self-linking number in annulus and pants open book decompositions

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Abstract

We find a self-linking number formula for a given null-homologous transverse link in a contact manifold that is compatible with either an annulus or a pair of pants open book decomposition. It extends Bennequin’s self-linking formula for a braid in the standard contact 3-sphere.

Keywords
braid, transverse knots, self-linking number

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The self-linking number in annulus and pants open book decompositions
We find a self-linking number formula associated to the surface, which extends Bennequin's self-linking formula for a braid in R^3. In a similar way, we find a combinatorial formula for the self-linking number of a closed braid in a pants open book decomposition, which corresponds to a contact Seifert fibered manifold. Comments: 24 pages, 25 figures. Subjects: Geometric Topology (math.GT); Symplectic Geometry (math.SG). MSC classes: 57M27; 57R17.