

# Contact 3-manifolds and supporting open-book decompositions

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## Abstract

Thurston and Winkelnkemper showed that every 3-manifold  $M$  has a contact structure, by giving a construction of a contact form on  $M$  from an open-book decomposition  $(M, F)$  with a fiber surface  $F$ . We say that the contact structure is *supported* by the open-book decomposition. Giroux showed that every contact structure on  $M$  is supported by some open-book decomposition.

In this talk we will review the construction of a contact structure, and discuss a relation between a property of the monodromy map for  $F$  and the tightness of the contact structure. In particular we give a characterization of a set of simple closed curves on  $F$  which may be Legendrian in the contact structure and talk about some application of this result.

## References

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