

# Overtwisted open books and Stallings twist

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## Abstract

We discuss a characterization of “overtwisted open books” on a closed oriented 3-manifold, i.e., open book decompositions corresponding to overtwisted contact structures via the Giroux’s one-to-one correspondence.

We focus on a simple closed curve on fiber surface of an open book, along which one can perform Stallings twist, and see that a given open book is overtwisted if and only if it is equivalent to an open book with a twisting loop up to positive stabilization, i.e., plumbing a positive Hopf band to the fiber surface.

## References

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