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On some properties of Bourgeois contact structures.

In this thesis, Bourgeois introduced a construction of a contact structure on $V \times \mathbb{T}^2$ that takes as input a contact open book decomposition on V . We study to what extent the structure on $V \times \mathbb{T}^2$ remembers the contact structure on V . In particular, we show that $V \times \mathbb{T}^2$ is often weakly fillable, even if V is overtwisted.

We will also consider some questions related to strong fillability of these $V \times \mathbb{T}^2$. (Received August 27, 2018)