

# TOPOLOGICAL MIRROR SYMMETRY FOR PARABOLIC HIGGS BUNDLES

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ABSTRACT. In 2003, T. Hausel and M. Thaddeus proved that the Hitchin systems on the moduli spaces of Higgs bundles, over a smooth projective curve, for the groups  $SL(n, \mathbb{C})$  and  $PGL(n, \mathbb{C})$  (of degree  $d \in \mathbb{Z}$  coprime with  $n$ ) verify the requirements to be considered SYZ-mirror partners, in the mirror symmetry setting proposed by Strominger-Yau-Zaslow (SYZ). According to the expectations coming from physicists, these moduli spaces should thus reflect a topological mirror symmetry in their (generalized) Hodge numbers. Hausel and Thaddeus proved that that is the case for  $n = 2, 3$  and gave strong indications that the same holds for any  $n$  prime.

In joint work in progress with P. Gothen, we perform a similar study but for parabolic Higgs bundles on  $X$ . This may possibly allow to deal with the case  $d = 0$ . We will explain our study and some questions which naturally arise from it.