

# Considerations about Resurgence Properties of Topological Recursion

Wednesday, 12 June 2019 14:00 (1 hour)

To a spectral curve  $S$  (e.g. a plane curve with some extra structure), topological recursion associates a sequence of invariants: some numbers  $F_g(S)$  and some  $n$ -forms  $W_{g,n}(S)$ . First we show that  $F_g(S)$  grow at most factorially at large  $g$ ,  $F_g = O((\beta g)! r^{-g})$  with  $r > 0$  and  $\beta \leq 5$ . This implies that there is a Borel transform of  $\sum_g \hbar^{2g-2} F_g$  that is analytic in a disk of radius  $r$ . The question is whether this is a resurgent series or not? We give arguments for this, and conjecture what are the singularities of the Borel transform, and we show how it works on a number of examples.

## Summary

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