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([vasilisa.shramchenko@usherbrooke.ca](mailto:vasilisa.shramchenko@usherbrooke.ca)), 2500 boul. de l'Université, Sherbrooke, Quebec J1K2R1, Canada. *Topological recursion of Eynard-Orantin, ribbon graphs, and Feynman diagrams.*

The Chekhov-Eynard-Orantin topological recursion applied to the algebraic curve corresponding to the quantum harmonic oscillator produces a hierarchy of multi-differentials defined on that curve. By rearranging these differentials in an appropriate way, one can reproduce the WKB series for the wave function of the quantum harmonic oscillator. Using the same multi-differentials, one generates naturally the numbers of  $N$ -rooted graphs, which in their turn count Feynman diagrams in a certain quantum field theory. (Received September 03, 2017)