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## Refined curve counting and Hrushovski-Kazhdan motivic integration

Motivated by mathematical physics, Block and Göttsche have defined “quantized” versions of Mikhalkin’s multiplicities for tropical curves. In joint work with Sam Payne and Franziska Schroeter, we propose a geometric interpretation of these invariants as  $\chi_y$  genera of semi-algebraic analytic domains over the field of Puiseux series. In order to define and compute these  $\chi_y$  genera, we use the theory of motivic integration developed by Hrushovski and Kazhdan and we explore its connections with tropical geometry.

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