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Title: On the geometric $P = W$ conjecture

Abstract: The geometric $P = W$ conjecture is a conjectural description of the asymptotic behavior of a celebrated correspondence in non-abelian Hodge theory. In a joint work with Enrica Mazzon and Matthew Stevenson, we establish the full geometric conjecture for compact Riemann surfaces of genus one, and obtain partial results in arbitrary genus: this is the first non-trivial evidence of the conjecture for compact Riemann surfaces. To this end, we employ non-Archimedean, birational and degeneration techniques to study the topology of the dual boundary complex of certain character varieties.