BOUNDARY BEHAVIOUR OF THE WEIL-PETERSSON METRIC

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The Weil-Petersson metrics on the Riemann moduli spaces of complex structures for an n-fold punctured oriented surface of genus g, in the stable range $g + 2n > 2$, are shown to have complete asymptotic expansions in terms of Fenchel-Nielsen coordinates at the exceptional divisors of the Knudsen-Deligne-Mumford compactification. The results are then applied to obtain the asymptotic expansions of the Ricci curvature and the sectional curvature of the moduli spaces. This is joint work with Richard Melrose.