

RANDOM IDEAL TRIANGULATIONS AND THE WEIL-PETERSSON EHRENPREIS CONJECTURE

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ABSTRACT. The Ehrenpreis conjecture states that given any two compact hyperbolic Riemann surfaces, or any two non-compact finite area hyperbolic Riemann surfaces, there are finite covers of the two surfaces that are arbitrarily close in the Teichmüller metric.

We prove the same statement for the normalized Weil-Petersson metric, in the case where the two surfaces are non-compact. In the course of doing so we construct “Random ideal triangulations” of the covers, where fairly accurate estimations of the proportion of each immersed triangle can be made.