ERRATUM TO "GRAFTING, PRUNING, AND THE ANTIPODAL MAP ON MEASURED LAMINATIONS"

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Theorem 9.3 of [D] is incorrect; in the proof, the quadrilateral comparison cannot be applied directly to estimate the integral (7). However a weaker estimate follows by correcting the proof: one must use $\left| \|f_* v\|^2 - \|h_* v\|^2 \right| = |\|f_* v\| - \|h_* v\|| \, |\|f_* v\| + \|h_* v\||$ and the Cauchy-Schwarz inequality, bounding the resulting terms by the energy difference and the total energy of f and h, respectively. This method was used by Korevaar-Schoen in [KS] (see the proof of Proposition 2.6.3) to obtain a more general estimate of the difference of pullback metrics for maps to NPC spaces, from which the following replacements for Theorem 9.3 and Corollary 9.4 of [D] follow:

Theorem 9.3. *Let $f \in W^{1,2}(X, Y)$ where $X, Y \in \mathscr{T}(S)$ and Y is given the hyperbolic metric ρ. Let h be the harmonic map homotopic to f. Then*

$$\|f^*(\rho) - h^*(\rho)\|_1 \leq \sqrt{2} \left(\mathscr{E}(f) - \mathscr{E}(h)\right)^{\frac{1}{2}} \left(\mathscr{E}(f)^{\frac{1}{2}} + \mathscr{E}(h)^{\frac{1}{2}}\right)$$

and in particular

$$\|\Phi(f) - \Phi(h)\|_1 \leq \sqrt{2} \left(\mathscr{E}(f) - \mathscr{E}(h)\right)^{\frac{1}{2}} \left(\mathscr{E}(f)^{\frac{1}{2}} + \mathscr{E}(h)^{\frac{1}{2}}\right).$$

Theorem 9.4. *Let $f \in W^{1,2}(\tilde{X}, T_\lambda)$ be a π_1-equivariant map, where $X \in \mathscr{T}(S)$ and $\lambda \in \mathscr{ML}(S)$. Then*

$$\|\Phi(f) + \frac{1}{4}\phi_X(\lambda)\|_1 \leq \sqrt{2} \left(\mathscr{E}(f) - \mathscr{E}(\pi_\lambda)\right)^{\frac{1}{2}} \left(\mathscr{E}(f)^{\frac{1}{2}} + \mathscr{E}(\pi_\lambda)^{\frac{1}{2}}\right)$$

The main results of [D] are unaffected by these changes, since they are asymptotic in nature and only require bounds that are $o(\mathscr{E}(h))$ when $\mathscr{E}(f) - \mathscr{E}(h) = O(1)$ and $\mathscr{E}(h) \to \infty$. Only Theorem 10.1 must be revised; we have instead:

Theorem 10.1. *Let $X \in \mathscr{T}(S)$ and $\lambda \in \mathscr{ML}(S)$. Then the Hopf differential $\Phi_X(\lambda)$ of the collapsing map $\kappa : X \to \mathrm{pr}_\lambda X$ and the Hubbard-Masur differential $\phi_X(\lambda)$ satisfy*

$$\|4\Phi_X(\lambda) - \phi_X(\lambda)\|_1 \leq C \left(1 + E(\lambda, X)^{\frac{1}{2}}\right)$$

where $E(\lambda, X)$ is the extremal length of λ on X and C is a constant depending only on $\chi(S)$.

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References

[D] David Dumas. Grafting, pruning, and the antipodal map on measured laminations. *J. Differential Geom.* **74**(2006), 93–118.

[KS] Nicholas J. Korevaar and Richard M. Schoen. Sobolev spaces and harmonic maps for metric space targets. *Comm. Anal. Geom.* **1**(1993), 561–659.

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