Corrections for "Two dimensional geometric variational problems"

p. 2 (1.1.3) $\int\limits_{..\partial B(p,r)}$

p. 5 line 7:

$\psi \in H^{2,1}$ implies the continuity of ψ because ψ is holomorphic

p. 6 line 3 and **p. 18**, line - 8:

The imaginary part of $z^2\varphi(z)$ vanishes on the boundary, hence $Im(z^2\varphi(z))$ is smooth up to the boundary, since harmonic, and so, the Cauchy-Riemann equations imply the regularity of $z^2\varphi(z)$ hence $\varphi(z)$.

p. 18 line 1:

same as for p. 5 line 7;

$L^1(A)$

line 4: $L^1(A), L^1(\partial A)$

p. 43 lines 6, 7:

$t = 0$ is superfluous

p. 44 (2.3.11) more precisely $\leq \Lambda\rho^2 I(\rho)$

and then $\sigma(\rho) := e^{-\rho}$

line 12: $\int_{B(z\ \ ,r\ \ )}$

p. 54 line 5:

$S^n \cdots u$ is stationary

There is a more recent result by F. Hélein.

p. 63 (2.5.4) h needs to be defined on some larger region, e.g.

$$\Delta h = 0 \text{ on } B(x_1, 4R) \cap D$$
$$h = d^2(u(\cdot), q) \text{ on } \partial(B(x_1, 4R) \cap D);$$

in the preceding, one also has to require

$$u(B(x_1, 4R) \cap D) \subset B(p, \frac{s}{4})$$

p. 82 lines - 5, - 6:

"converge" in place of "coverage"

p. 86 Lemma 3.1.1: $\partial B(x_0, r) \cap D$ is automatically connected

bottom:

$E(u; B(x_0, r)) = \frac{1}{2}\int(\cdots + \frac{1}{r}\cdots)$

p. 98 line - 8:

s is the subarc of $\tilde{c}$ between $\tilde{c}(0)$ and $\tilde{c}(i)$

p. 99 line 9:

another lift $\tilde{\gamma}$ of γ

In place of Lemma 3.3.3, one may use an elementary argument from hyperbolic geometry.

p. 101 end of proof of Lemma 3.3.2: same Euler number follows from Gauss-Bonnet

p. 105 line 4 after Thm. 3.3.2: orientation-reversing

p. 107 line - 2:

$i(\Omega)$ in place of $i(\Sigma)$

proof of 4.1.3:

$q \in N \backslash B(p, 2s)$

p. 220 proof of Thm. 6.5.2: $f > 0 \Rightarrow (\Delta - 2)\ ^{1} f > 0$, because otherwise

$g := (\Delta - 2)\ ^{1} f$ has pos. Max., and there, since $0 < f = (\Delta - 2)g$,

$\Delta g > 0$ which is a contradiction

$\Rightarrow$ (6.5.49) by Hölder's inequality, since fundamental solution < 0

p. 225 middle of page:

$$\sigma_n(r) := \quad \text{in place of } \sigma_n(z) := \quad ; \text{sc. } r := |z|$$
$$\varphi_n(z) := (1 - \sigma_n(|z|))\eta(z)$$

(A.7) $= \frac{2\pi}{\log n}$

p. 226 line 1:

(A7) in place of (A8)

The argument on p. 5 and in the proof of Lemma 1.2.5 is taken from Morrey [M 3], 9.3.