

Both estimates (2.13) and (4.2) are incorrect: the right hand side is missing a factor r^{-1} . The correct estimate is

$$|I(z, r) - I(y, r)| \leq C \left[\left(W_{r/8}^{4r}(x_1) \right)^{1/2} + \left(W_{r/8}^{4r}(x_2) \right)^{1/2} \right] \frac{|z - y|}{r} \quad \forall z, y \in [x_1, x_2]. \quad (1)$$

This estimate is in fact the one which is invariant under the rescaling $u_r(x) := u(rx)$, which is the rescaling used in the proof to reduce the statement to the case $r = 1$. The mistake is no consequence for the rest of the paper because in fact the estimate is used when $r = 1$ in all the subsequent arguments.

Moreover, in the last two displayed equations of Section 4 the square root is missing on the right hand sides. The correct estimates are

$$\begin{aligned} \partial_v I(x, 1) &\leq C(\sqrt{W(x_1)} + \sqrt{W(x_2)}) & \forall x \in [x_1, x_2] \\ |\partial_v I(x, 1)| &\leq C(\sqrt{W(x_1)} + \sqrt{W(x_2)}) & \forall x \in [x_1, x_2]. \end{aligned}$$