J Geom Anal (2013) 23:375–376
DOI 10.1007/s12220-012-9296-2

ERRATUM

Erratum to: Local *Tb* Theorems and Hardy Inequalities

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Received: 6 January 2012 / Published online: 14 February 2012
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Erratum to: J Geom Anal DOI 10.1007/s12220-011-9249-1

Since Sect. 7 of [1] is very technical, we want to make two points more precise:

In Sect. 7.3.4, a term is missing in the definition of the quantity $\langle f, V_{1,2}g\rangle$. It should read

$$\langle f, V_{1,2}g\rangle = \sum_{\substack{Q \text{ spa } 2\\ \text{and pa } 1}} \Bigg(\langle f, \phi_Q^2\rangle \langle b^2\phi_Q^2, T(b^1 1_Q)\rangle \frac{[g]_Q}{[b^1]_Q} - \langle f, \phi_Q^2\rangle \Bigg\langle b^2\phi_Q^2, T\Bigg(b^1\Bigg(1_Q - \sum_{\substack{R' \text{ pa } 1\\ l(R')=l(Q)}} 1_{R'}\Bigg)\Bigg)\Bigg\rangle \frac{[g]_Q}{[b^1]_Q}\Bigg).$$

Section 7.3.8 introduces the set $\mathrm{fr}(S)$, defined as the union of the boundaries $\overline{S'}\setminus S'$ of all the children S' of S. Although clear in Euclidean context, it could well be empty in arbitrary spaces, and the distance to this set be undefined. The corresponding paragraph can be modified as follows:

The online version of the original article can be found under doi:10.1007/s12220-011-9249-1.

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Fix such cubes Q and S, and note that $l(Q) < l(S)$. For any cube R strictly contained inside S, we know that ϕ_S^1 is constant over R. In the following, let us denote by S_Q the unique cube of length $\delta l(S)$ containing Q. First, if $Q \cap S = \varnothing$, and $\rho(Q, S) > \delta^{-N-1} l(Q)$, then one immediately sees that all the $\beta^N_{Q,S,R}$ are equal to zero, and $\gamma^N_{Q,S}$ as well. Next, if $Q \subset S$ and $\rho(Q, {S_Q}^c) > \delta^{-N-1} l(Q)$, then if $\beta^N_{Q,S,R} \neq 0$, it implies $\rho(Q, R) \leq \delta^{-N} l(Q)$, and thus R is in the same child of S as Q. Therefore, for all the $\beta^N_{Q,S,R}$ not equal to zero, $[\phi_S^1]_R$ has the same value, and $\gamma^N_{Q,S} = [\phi_S^1]_Q \sum_R \beta^N_{Q,S,R} = 0$. Finally, the only cubes Q for which $\gamma^N_{Q,S} \neq 0$ are the cubes Q disjoint from S, at distance less than $\delta^{-N-1} l(Q) \leq \delta^{-N-1} \delta^{N+3} l(S) < l(S)$ from S (which implies $\rho(Q, {S_Q}^c) \leq \delta^{-N-1} l(Q)$), and the cubes $Q \subset S$ such that $\rho(Q, {S_Q}^c) \leq \delta^{-N-1} l(Q)$.

Further appearances of $\mathrm{fr}(S)$ can be modified according to the changes above.

We thank Tuomas Hytönen for pointing out these items.

References

1. Auscher, P., Routin, E.: Local Tb Theorems and Hardy Inequalities. J. Geom. Anal. doi:10.1007/s12220-011-9249-1