Corrigendum: Linear sampling method for identifying cavities in a heat conductor

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On page 2, the definition of $H^{p,q}(\mathbb{R}^n \times \mathbb{R})$ for $p$, $q < 0$ should be given in the following way.

For $p$, $q < 0$, we define by the duality

$$H^{p,q}(\mathbb{R}^n \times \mathbb{R}) := (H^{-p,-q}(\mathbb{R}^n \times \mathbb{R}))'.$$

On pages 7 and 8, we correct the proof of $\| \partial \Gamma(y,\cdot) \|_{H^{1/2-1/(\partial D)\Gamma}} \to \infty$ ($y \to \partial D$) in what follows.

First of all, there was confusion defining the local coordinate $\eta$. The right description is as follows. Let $x$ denote the local coordinate defined by the basis $\{e_j\}$ and define the local transformation of coordinates $y = F(x)$ as before. We note here that $f(0) = \nabla_y f(0) = 0$ and we let $y \to 0 \in \partial D$. Furthermore, without loss of generality, we assume $s = 0$.

Next, we correct the argument estimating $\| \partial \Gamma(y,\cdot) \|_{H^{1/2-1/(\partial D)\Gamma}}$. By picking up a term of the norm $\| \partial \Gamma(y,\cdot) \|_{H^{1/2-1/(\partial D)\Gamma}}$ defined by a partition of unity which can be computed using the local coordinate $y' \in D_2 := [-l, l] \times [-l, l]$ with $0 < l \ll 1$ and ignoring any terms which are bounded as $\xi \to 0$ from above, we can estimate the following:

$$\left\| \partial \Gamma(y,\cdot) \right\|_{H^{1/2-1/(\partial D)\Gamma}} \geq \frac{c_1}{16 \pi^{3/2}} \xi^3 \int_0^T t^{-5/2} e^{-c_1 t} \frac{\partial h(t)}{\partial t} \int_{D_2} e^{-c_1 \gamma'^2} d\gamma' dt$$

$$= \frac{c_1}{8 \pi^{3/2} \gamma^2} \xi^3 \int_0^T t^{-3/2} e^{-c_1 t} \frac{\partial h(t)}{\partial t} \int_{D_2} e^{-(|y'|^2)} dy' dt$$

for some constants $c_1$, $c_2 > 0$, where $0 < \alpha$, $c \ll 1$, $h(t) \in C_0^\infty((0, T))$, such that

$$\| c h(t) e^{-c_1 \gamma'^2} \|_{H^{1/2-1/(\partial D)\Gamma}} \leq 1$$

and

$$D_2 = \left[ -l \sqrt{\frac{c_2}{2l}}, l \sqrt{\frac{c_2}{2l}} \right] \times \left[ -l \sqrt{\frac{c_2}{2l}}, l \sqrt{\frac{c_2}{2l}} \right].$$

The rest is the same as we presented earlier in the paper.