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ERRATUM TO "DIRICHLET BOUNDARY CONDITIONS FOR ELLIPTIC OPERATORS WITH UNBOUNDED DRIFT"

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The statement of Theorem 2.4 in our paper published in vol. 133, no. 9 (2005), pages 2625-2635, must be changed as follows.

Theorem 2.4. *Let Φ be a C^2 function such that $\Phi(x)+\alpha|x|^2/2$ is convex for some $\alpha > 0$, assume that $\partial\Omega \in C^3$ and that*

$$\frac{\partial \Phi}{\partial n} - H \leq 0.$$

Then $(A, D(A))$ is self-adjoint and dissipative in $L^2(\Omega,\mu)$. Moreover, the map $u \mapsto \langle (D^2\Phi)Du, Du\rangle$ is continuous from $D(A)$ to $L^1(\Omega,\mu)$.

Here $H = H(x)$ is the scalar mean curvature of $\partial\Omega$ at x, taken positive if Ω is convex.

The proof remains the same except at one point; at the beginning of page 2629 we have to use the identity

$$\Delta u = \langle (D^2 u)\, n, n\rangle + H\frac{\partial u}{\partial n} \ \text{ at } \partial\Omega$$

for regular functions u vanishing at $\partial\Omega$, instead of $\Delta u = \langle (D^2 u)\, n, n\rangle$. Accordingly, from the equality $\lambda u - \mathcal{A}u = f$ at $\partial\Omega$ we get the estimate

$$\int_{\partial\Omega} \theta_R^2 \langle (D^2 u)\, n, Du\rangle\, e^{-\Phi} d\sigma \leq \int_{\partial\Omega} \theta_R^2 \Big(\frac{\partial \Phi}{\partial n} - H\Big)\Big(\frac{\partial u}{\partial n}\Big)^2 e^{-\Phi} d\sigma$$

instead of

$$\int_{\partial\Omega} \theta_R^2 \langle (D^2 u)\, n, Du\rangle\, e^{-\Phi} d\sigma \leq \int_{\partial\Omega} \theta_R^2 \frac{\partial \Phi}{\partial n}\Big(\frac{\partial u}{\partial n}\Big)^2 e^{-\Phi} d\sigma.$$

Theorem 2.5 holds without any change in the statement because if $\partial\Omega$ is uniformly C^2, then H is bounded.

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