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ERRATUM

Erratum to: Decay Rates to Equilibrium for Nonlinear Plate Equations with Degenerate, Geometrically-Constrained Damping

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It was brought to our attention that line 15 on page 374—which claims $u_t = 0$ in $\Omega \times \Theta$—is unclear. Upon further inspection, this statement should differentiate between two cases: (a) $p(\mathbf{x}) = 0$ on Ω and (b) $p(\mathbf{x}) \neq 0$ (taken in the $L_2(\Omega)$ sense). Case (a): As argued in the treatment, the application of Holmgren's theorem gives $u = 0$ on $\omega \times \Theta$. The desired final conclusion follows by inserting this information into Berger's equation (by assumption, no longer containing the damping term $d(\mathbf{x})g(u_t)$), and then employing Kim's unique continuation result Theorem 3.1. Case (b): One reaches a contradiction with the additional mild assumption that there exists a set of positive measure $U \subset \omega$ so that $p(\mathbf{x}) \neq 0$ on U. Thus Theorem 3.2, and consequently Theorems 2.5, 2.6 (Main Results), remain valid when (a) $p(\mathbf{x}) \equiv 0$, and when (b) $p(\mathbf{x}) \in L_2(\Omega)$ is non-trivial, assuming that $p(\mathbf{x}) \neq 0$ on some open set $U \subset \omega$.

Remark 0.1 If $p(\mathbf{x})$ has sufficient regularity then, via the bootstrapping procedure in the proof of Lemma 3.4, the equality

$$u_{tt} + \Delta^2 u = f_B(u) + p(\mathbf{x})$$

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holds pointwisely; by inserting $u \equiv 0$ on $\omega \times \Theta$ we may reach a contradiction to case (b) (as above) if there is a single point $\mathbf{x}_0 \subset \omega$ such that $p(\mathbf{x}_0) \neq 0$.

We also note that Kim's theorem is more robust: p($\mathbf{x}$) may be replaced by $p(u)$ (under suitable dissipativity assumptions); in this case the above proof of the unique continuation result will remain valid.