ERRATA TO "L^p–L^q ESTIMATES FOR REGULARLY LINEAR HYPERBOLIC SYSTEMS"

Marcello D'Abbicco, Sandra Lucente, and Giovanni Taglialatela

The set of Hypotheses of Theorem 1 of [1] should be completed by the following:

Hypothesis 6. *There exists $t_0 > 0$ such that the Gaussian curvature of*

$$\Sigma_q(t) := \left\{ \xi \in \mathbb{R}^n : \frac{1}{t} \int_0^t \tau_q(s,\xi)\, ds = 1 \right\}, \qquad q = 1, \dots, M\,,$$

is bounded away from zero uniformly with respect to $t \in [t_0, \infty)$ for any $q = 1, \dots, M$.

Indeed, this assumption corresponds to condition (L.3) on page 827. As claimed later on page 827, such an Hypothesis is automatically satisfied whenever Lemma 3.1 of [2] applies. The proof of such a lemma is based on the fact that the eigenvalues are exactly given as square roots of some quadratic form in ξ. For example, one can take a regularly hyperbolic 2×2 system where $A(t,\xi)$ has identically vanishing trace. Nevertheless, in the case of not identically vanishing trace, Hypothesis 6 is still verified, provided that a stabilization condition holds, namely that there exists

$$\lim_{t \to \infty} \left((\mathit{trace}\, A(t,\xi))^2 - 4 \det A(t,\xi) \right) .$$

See [4] for details.

We thank M. Ruzhansky and J. Wirth for pointing out our omission. The interested reader can find in [3] and in the quoted references a discussion on Hypothesis 6 and related questions in the case of constant coefficients. Finally, we remark that Hypothesis 6 is not needed for the application of Theorem 1 to the scalar equations in the Appendix.

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REFERENCES

[1] M. D'Abbicco, S. Lucente, and G. Taglialatela, *L^p–L^q estimates for regularly linear hyperbolic systems,* Advances in Differential Equations, 1 (2009), 801–834.

[2] M. Reissig, *L^p–L^q decay estimates for wave equation with bounded time dependent coefficients*, in "Dispersive Nonlinear Problems in Mathematical Physics," Quad. Mat., 15, Dept. Math., Seconda Univ. Napoli, Caserta 2004, 221–266.

[3] M. Ruzhansky and J. Smith, *Dispersive and Strichartz estimates for hyperbolic equations with constant coefficients*, MSJ Memoirs, 22 (2010), 147.

[4] M. Reissig and K.Yagdjian, *L^p–L^q decay estimates for the solutions of strictly hyperbolic equations of second order with increasing in time coefficients*, Math. Nachr., 214 (2000), 71–104.