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ERRATUM TO THE ROLE OF LIMIT CYCLES IN THE ADMISSIBILITY OF SHOCK WAVES

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In Ref. [1], the condition giving the cusp case of codimension-3 Bogdanov-Takens bifurcation is incorrectly identified. Instead of occurring along the codimension-2 Bogdanov-Takens locus at viscosity angles (when Eq. (5.7) in Ref. [1] holds), the cusp case occurs when $\tilde{A}(\Omega_0) = 0$, where

$$\tilde{A} = \frac{1}{2}\left(\Delta_{11}\tilde{\mu} + \Delta_{12}\mu + \Delta_{21}\tilde{\nu} + \Delta_{22}\nu\right).$$

The coefficient $\tilde{A}$ arises in Theorem 5.13 of Ref. [2]. This theorem is also incorrectly stated: its hypotheses should include the nondegeneracy condition $\tilde{A}(\Omega_0) \neq 0$. (This condition corresponds to the requirement that $C \neq 0$ in the Hirschberg-Knobloch normal form, whereas the nondegeneracy condition (5.41) in this theorem corresponds to $K \neq 0$ in the normal form.)

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References

[1] Čanić, S., *The role of limit cycles in the admissibility of shock waves*, Mat. Contemp. 8 (1995), 63–88.

[2] Čanić S. and Plohr, B., *Shock wave admissibility for quadratic conservation laws*, J. Differential Equations 118 (1995), 293–335.

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