

# Corrigenda for Holomorphic Flows on Simply Connected Regions have No Limit Cycles

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There is an error in Theorem 4.1 in [1] which was very kindly pointed out to me by Deming Liu, the last part of the last sentence being incorrect (as shown by Example 4.2 in case  $n = 3$ ). The correct statement and revision for the proof are given here.

**THEOREM 0.1.** *Let  $\dot{z} = f(z) = \alpha(z - z_1) \cdots (z - z_n)$  be a flow where  $\alpha \in \mathbb{C} \setminus \{0\}$ , the  $z_i$  are distinct, and each is a center (for the linearized flow). If  $n \leq 3$  then the  $z_i$  are collinear. If  $n = 4$  then the  $z_i$  are either collinear or any three form the vertices of a triangle with the remaining point the orthocenter of the triangle.*

*Proof.* If  $n \leq 3$  the proof is the same as given in [1, Theorem 4.1]. If  $n = 4$  the proof is the same, until the very last sentence, which should read: But then  $z_1 - z_3 \perp z_4 - z_2$ ,  $z_1 - z_2 \perp z_3 - z_4$  and  $z_1 - z_4 \perp z_3 - z_2$ , so any three of the points form a proper triangle for which the remaining point is the orthocenter. ■

## REFERENCES

1. Broughan, K.A. *Holomorphic flows on simply connected regions have no limit cycles*, *Meccanica* **38** (2003), p699-709.