

ERRATA TO "NONSINGULAR QUADRATIC DIFFERENTIAL EQUATIONS IN THE PLANE"

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It was claimed in the above-mentioned paper that the number of inseparable leaves of a foliation in the plane defined by a nonsingular quadratic differential equation is at most 2. As it was pointed out by Gasull and Llibre in [2], the correct value is 3. They also give the correct formulation of the theorem in [1] and its corollary, which should read as follows:

THEOREM. *Let P and Q be polynomials of degree at most 2 in two real variables, such that $P^2 + Q^2$ is never zero. The foliation defined by $Pdx + Qdy = 0$ is then conjugate to one of the following three: $dx = 0$; $x dx + (1 - x^2)dy = 0$; $y^2 dx + 2(1 + xy)dy = 0$.*

We recall that a conjugacy is a homeomorphism taking leaves of one foliation into leaves of the other.

COROLLARY. *There are at most 2 Reeb components for a nonsingular quadratic vector field in the plane.*

The proof of the theorem consists of a case by case analysis involving blow up of singularities. The analysis of some of the cases in [1] is incomplete. In particular, in a case called (b2.2) in [1], the equation was reduced to $(ey^2 + ny + p)dx + [y(c'x + e'y) + m'x + n'y + p']dy = 0$. It was claimed that for this to be nonsingular, one should have $n^2 - 4pe < 0$. This condition although sufficient is not necessary. In particular one does not need to have p nonzero, which was assumed in the sequence. If $p = 0$, one can still have a nonsingular equation provided $m' = n = 0$ and this can lead to a configuration with three inseparable leaves (take for example $e = 1$, $c' = 2$, $e' = 0$, $n' = 0$, $p' = 2$).

For the complete set of possible topological types we refer the reader to [3] where the same question was treated with different methods.

REFERENCES

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3. A. Gasull, Sheng Li Ren and J. Llibre, *Chordal quadratic systems*, Rocky Mountain J. Math. **16** (1986), 751-782.

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Received by the editors December 23, 1987.