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ERRATUM TO: "CHARACTERIZATION OF NON-DEGENERATE PLANE CURVE SINGULARITIES" UNIV. IAGELL. ACTA MATH., 45 (2007), 27–36

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Abstract. The results of the paper "Characterization of non-degenerate plane curve singularities" depend on Definition 3.1. Unfortunately, Theorems 3.2 and 3.4 are correct only with this definition revised. Below we provide the necessary corrections and some comments.

Definition 3.1 [corrected]. *A plane curve germ C is Newton's germ (shortly N-germ) if there exist a decomposition $(C^{(i)})_{1\leq i\leq s}$ of C and a sequence $(d^{(i)})_{1\leq i\leq s}$, $d_i \in \mathbb{R}\cup\{\infty\}$ such that the following conditions hold*

(1) $1 \leq d^{(1)} < \ldots < d^{(s)} \leq \infty$. *If* $d(C^{(i)}) \neq \infty$ *then* $d(C^{(i)}) = d^{(i)}$. *Moreover,* $d(C^{(s)}) = d^{(s)}$.

(2) *Let* $(C_j^{(i)})_j$ *be branches of* $C^{(i)}$. *Then*

  (a) *if* $d(C^{(i)}) \in \mathbb{N}\cup\{\infty\}$ *then the branches* $(C_j^{(i)})_j$ *are smooth,*

  (b) *if* $d(C^{(i)}) \notin \mathbb{N}\cup\{\infty\}$ *then there exists a pair of coprime integers* (a_i, b_i) *such that each branch* $C_j^{(i)}$ *has exactly one characteristic pair* (a_i, b_i). *Moreover* $d(C_j^{(i)}) = d(C^{(i)})$ *for all* j.

(3) *If* $C_l^{(i)} \neq C_k^{(i_1)}$ *then* $d(C_l^{(i)}, C_k^{(i_1)}) = \inf\{d^{(i)}, d^{(i_1)}\}$.

Note that the sequence $(d^{(i)})_{1\leq i\leq s}$ is determined by the decomposition $(C^{(i)})_{1\leq i\leq s}$: using (d_4) we get $d^{(i)} = d(C^{(i)}\cup\cdots\cup C^{(s)})$ for $i = 1,\ldots,s$.

Theorems 3.2 and 3.4 are now correct. The proof of Theorem 3.2 needs some corrections. The statement "From (d_4) we get $d(C^{(i)}) = d_i$" (p. 32, line 13 up from the bottom of the paper) is true if $d(C^{(i)}) \neq \infty$. The implication $(1) \Rightarrow (2)$ of Theorem 3.2 follows directly from Lemma 5.1 if in the notation of the lemma $d(C^{(s)}) \neq \infty$. It suffices to put $d^{(i)} = d_i$. If $d(C^{(s)}) = \infty$ in the notation of Lemma 5.1 then $C^{(s)}$ has the local equation of the form $y - y(x) = 0$ where $y(x)$ is a power series of order d_s. To check the implication (1) $\Rightarrow$ (2) in this case we apply Lemma 5.1 to the germ C in the chart $(\tilde{x}, \tilde{y}) = (x, y - y(x))$.

In the proof of the implication (2) $\Rightarrow$ (1) (pp. 33–34) we replace $d(C^{(i)})$ by $d^{(i)}$. The last sentence of the proof of Lemma 5.3 should be replaced by "Since $d(C_j^{(i)}, C_{j_0}^{(s)}) = \inf\{d^{(i)}, d^{(s)}\} = d^{(i)} < d(C_{j_0}^{(s)}, L) = d^{(s)}$ we get the equality $d(C_j^{(i)}, L) = d^{(i)}$."

The proof of Theorem 3.4 is not affected. These mistakes are due to an oversight, for which the authors apologize.

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