157. *On Normal Analytic Sets. II*

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I have studied conditions for an analytic set being normal and obtained the following [1].[1]

Theorem 1. *If $\sum$ is normal at* 0, *then $\sum$ satisfies the conditions* (α) *and* (β). *Moreover, when $\sum$ is principal, $\sum$ is normal at* 0 *if and only if $\sum$ satisfies the conditions* (α) *and* (β).

The two conditions in Theorem 1 are the following.

Condition (α).[2] *Let* (x^0, y^0) *be a point sufficiently near* 0, *such that* $\delta(x^0)\neq 0$, $f(x^0, y^0)=0$. *Let*

$$z_\mu = z_\mu^{(i)}(x, y) = \sum_{\nu=0}^{\infty} c_\nu^{(i,\mu)}(x)(y-\varphi(x))^{\frac{\nu}{pi}},\ 1\leqslant\mu\leqslant e,\ 1\leqslant i\leqslant\kappa,$$

be the systems of Puiseux-series, attached to (x^0, y^0). *Then, for* i, j, $i\neq j$, *there exists an index* μ, $1\leqslant\mu\leqslant e$, *such that we have* $c_0^{(i,\mu)}(x^0)\neq c_0^{(j,\mu)}(x^0)$.

Condition (β). *Let* (x^0, y^0) *be a point sufficiently near* 0, *such that* $\delta(x^0)\neq 0$, $f(x^0, y^0)=0$. *Let*

$$z_\mu = z_\mu(x, y) = \sum_{\nu=0}^{\infty} c_\nu^{(\mu)}(x)(y-\varphi(x))^{\frac{\nu}{p}},\ 1\leqslant\mu\leqslant e,$$

be a system of Puiseux-series, attached to (x^0, y^0), *such that* $p>1$. *Then we have* $c_1^{(\mu)}(x)\not\equiv 0$ *for an index* μ, $1\leqslant\mu\leqslant e$.

The notations given in [1] are used in the above statements and will be in the following.

In this note, two conditions are newly introduced to improve Theorem 1. Consider the following.

Condition (γ). *Let* (x^0, y^0) *be a point sufficiently near* 0, *such that* $\delta(x^0)\neq 0$, $f(x^0, y^0)=0$. *Let*

$$z_\mu = z_\mu^{(i)}(x, y) = \sum_{\nu=0}^{\infty} c_\nu^{(i,\mu)}(x)(y-\varphi(x))^{\frac{\nu}{pi}},\ 1\leqslant\mu\leqslant e,\ 1\leqslant i\leqslant\kappa,$$

be the systems of Puiseux-series, attached to (x^0, y^0). *Then, for* i, j, $i\neq j$, *there exists an index* μ, $1\leqslant\mu\leqslant e$, *such that we have* $c_0^{(i,\mu)}(x)\not\equiv c_0^{(j,\mu)}(x)$.

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1) Prof. K. Kasahara has kindly pointed out, with a counter example, the incredibility of Theorem 2, [1]. And I found out several errors in [1]. In [1], the propositions and theorems need the assumption that $\sum$ is *principal*, except for Propositions 3, 4: the reader would take care of the fact that, even if $\sum$ is non-principal, the "only if" parts of Propositions 1, 2 however are true. Theorem 1, [1] should therefore be corrected as in the present paper.

2) The condition (α) in [1] was incorrect and should be thus revised.