

Erratum to: On some (p, q) - φ relative Gol'dberg type and (p, q) - φ relative Gol'dberg weak type based growth properties of entire functions of several complex variables (Ital. J. Pure Appl. Math. N. 44-2020, 403-414)

Tanmay Biswas

*Rajbari, Rabindrapally, R. N. Tagore Road
P.O. Krishnagar, Dist-Nadia, PIN- 741101
West Bengal
India
tanmaybiswas_math@rediffmail.com*

Ritam Biswas*

*Department of Mathematics
Krishnath College
P.O.- Berhampore, Dist- Murshidabad, PIN-742101
West Bengal
India
ritamitr@yahoo.co.in*

The following corrections are needed in [1]:

- 1) At page 405, in line 7, read the heading “**Definition 2** ([4]).” instead of “**Definition 2**”
- 2) At page 405, in line 14-15, read “..... n -complex variables, one may see [2, 3].” instead of “..... n -complex variables, one may see [3].”
- 3) In consequence with Definition 2 already mentioned at page 405, one may define (p, q) - φ Gol'dberg type $\sigma_D^{(p,q)}(f, \varphi)$, (p, q) - φ Gol'dberg lower type $\bar{\sigma}_D^{(p,q)}(f, \varphi)$, (p, q) - φ Gol'dberg weak type $\tau_D^{(p,q)}(f, \varphi)$ and the growth indicator $\bar{\tau}_D^{(p,q)}(f, \varphi)$ as:

$$\frac{\sigma_D^{(p,q)}(f, \varphi)}{\bar{\sigma}_D^{(p,q)}(f, \varphi)} = \lim_{R \rightarrow +\infty} \sup \inf \frac{\log^{[p-1]}(M_{f,D}(R))}{(\log^{[q-1]} \varphi(R))^{\rho^{(p,q)}(f, \varphi)}}, \text{ where } 0 < \rho^{(p,q)}(f, \varphi) < \infty$$

and

$$\frac{\bar{\tau}_D^{(p,q)}(f, \varphi)}{\tau_D^{(p,q)}(f, \varphi)} = \lim_{R \rightarrow +\infty} \sup \inf \frac{\log^{[p-1]}(M_{f,D}(R))}{(\log^{[q-1]} \varphi(R))^{\lambda^{(p,q)}(f, \varphi)}}, \text{ where } 0 < \lambda^{(p,q)}(f, \varphi) < \infty.$$

In the above definitions if $\varphi(R) = R$, the above definitions reduce to the definitions of (p, q) -th Gol'dberg type $\sigma_D^{(p,q)}(f)$, (p, q) -th Gol'dberg lower type

*. Corresponding author

$\overline{\sigma}_D^{(p,q)}(f)$, (p, q) -th Gol'dberg weak type $\tau_D^{(p,q)}(f)$ and another growth indicator $\overline{\tau}_D^{(p,q)}(f)$ which are as follows:

$$\frac{\sigma_D^{(p,q)}(f)}{\overline{\sigma}_D^{(p,q)}(f)} = \lim_{R \rightarrow +\infty} \sup \frac{\log^{[p-1]}(M_{f,D}(R))}{\left(\log^{[q-1]} R\right)^{\rho^{(p,q)}(f)}}, \text{ where } 0 < \rho^{(p,q)}(f) < \infty$$

and

$$\frac{\overline{\tau}_D^{(p,q)}(f)}{\tau_D^{(p,q)}(f)} = \lim_{R \rightarrow +\infty} \sup \frac{\log^{[p-1]}(M_{f,D}(R))}{\left(\log^{[q-1]} R\right)^{\lambda^{(p,q)}(f)}}, \text{ where } 0 < \lambda^{(p,q)}(f) < \infty.$$

4) At page 406, in line 6, read “In [3], Biswas has further introduced....” instead of “In [4], Biswas has further introduced....”

5) In Definition 6, Definition 7 and Definition 8, read “.....with index-pairs (m, q) - φ and (m, p) respectively,.....” instead of “.....with index-pairs (m, q) and (m, p) respectively,.....”

6) Read the last paragraph of the section “Introduction, definitions and notations” as “Various authors {cf. [1] to [13]} have been investigating growth properties of entire functions of several complex variables for a long time, using several growth indicators, such as Gol'dberg order, (p, q) -th Gol'dberg order, relative Gol'dberg order etc. as devices to understand their growth behaviour. In this paper we wish to study some growth properties based upon the notion of (p, q) - φ relative Gol'dberg type, (p, q) - φ relative Gol'dberg weak type and the other growth indicators of entire functions of several complex variables.” instead of “In this paper we wish to study some growth properties based upon the notion of (p, q) - φ relative Gol'dberg type, (p, q) - φ relative Gol'dberg weak type and the other growth indicators of entire functions of several complex variables.”

7) At page 408, in Lemma 1, read “....regular (m, p) -th Gol'dberg growth and with non zero finite (m, p) -th Gol'dberg order. Also let $f(z)$ be another entire function of n complex variables with index-pair (m, q) - φ .” instead of “....regular (m, p) - φ growth and with non zero finite (m, p) - φ Gol'dberg order. Also let $f(z)$ be another entire function of n complex variables with index-pair (m, q) .”

References

- [1] T. Biswas and R. Biswas, *On some (p, q) - φ relative Gol'dberg type and (p, q) - φ relative Gol'dberg weak type based growth properties of entire functions of several complex variables*, Ital. J. Pure Appl. Math., 44 (2020), 403-414.

Accepted: February 17, 2021