

**SOME RESULTS IN CONNECTION WITH SUM AND PRODUCT  
THEOREMS RELATED TO GENERALIZED RELATIVE ORDER  
 $(\alpha, \beta)$  AND GENERALIZED RELATIVE TYPE  $(\alpha, \beta)$  OF ENTIRE  
FUNCTIONS IN THE UNIT DISC**

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(Received: Jul. 23, 2022 Accepted: Oct. 21, 2022 Published: Dec. 30, 2022)

**Abstract:** Orders and types of entire functions have been actively investigated by many authors. In this paper, we investigate some basic properties in connection with sum and product of generalized relative order  $(\alpha, \beta)$ , generalized relative type  $(\alpha, \beta)$  and generalized relative weak type  $(\alpha, \beta)$  of entire functions in the unit disc  $D$  with respect to another entire function where  $\alpha, \beta$  are continuous non-negative functions on  $(-\infty, +\infty)$ .

**Keywords and Phrases:** Entire function, growth, composition, generalized relative order  $(\alpha, \beta)$ , generalized relative type  $(\alpha, \beta)$ , generalized relative weak type  $(\alpha, \beta)$ .

**2020 Mathematics Subject Classification:** 30D35, 30D30, 30D20.

### 1. Introduction and Definitions

Let  $h(z) = \sum_{n=0}^{\infty} c_n z^n$  be analytic in the unit disc  $U = \{z : |z| < 1\}$  and  $M_h(r)$  be the maximum of  $|h(z)|$  on  $|z| = r$ . In [12], Sons defined the order  $\rho(h)$  and the