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# RELATIVE ORDER AND LOWER RELATIVE ORDER OF AN ENTIRE FUNCTION REPRESENTED BY DIRICHLET SERIES

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**Abstract**

In this paper we have introduced relative order $\rho_g(f)$ and lower relative order $\lambda_g(f)$ of an entire function $f$ represented by Dirichlet series with respect to another entire function $g$ represented by Dirichlet series. We have also obtained a few relations between $\rho_g(f), \rho(f), \rho(g)$ where $\rho(f), \rho(g)$ are classical orders of $f$ and $g$ respectively. We found out the relative order of a Dirichlet polynomial with respect to another Dirichlet polynomial and of sum function of two Dirichlet entire functions with respect to another Dirichlet entire function. We have also obtained a formula which expresses $\rho_g(f)$ in terms of the coefficients of the Dirichlet series expansions of $f$ and $g$ having same exponents. We also found out some relations between relative order and lower relative order of different functions.

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Key Words : *Dirichlet entire function, Relative order, Lower relative order.*

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