

FUNDAMENTALS OF A WIMAN VALIRON THEORY FOR POLYMONOGENIC FUNCTIONS

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Abstract. *In this paper we present some rudiments of a generalized Wiman-Valiron theory in the context of polymonogenic functions. In particular, we analyze the relations between different notions of growth orders and the Taylor coefficients. Our main intention is to look for generalizations of the Lindelöf-Pringsheim theorem. In contrast to the classical holomorphic and the monogenic setting we only obtain inequality relations in the polymonogenic setting. This is due to the fact that the Almansi-Fischer decomposition of a polymonogenic function consists of different monogenic component functions where each of them can have a totally different kind of asymptotic growth behavior.*