

PREFACE

In the last two decades many definitions of the asymptotic behaviour of distributions have been presented, elaborated and applied to integral transformations of distributions. The main aim of this dissertation is to give survey of all such definitions, to elaborate the most important of new results, and to compare them to the Abelian type theorems and Inversion Formulae, for the modified Stieltjes transformation of distributions. This modified Stieltjes transformation is based on the quasiasymptotic behaviour of distributions at zero and at infinity.

This dissertation consists of four chapters, each chapters are divided into many subsection.

Chapter 0 gives some basic notations & notions which are used in subsequent chapters.

Second section of chapter 0 gives the simplest asymptotic behaviour of distributions introduced by Lighthill [8]. A refined version of this definition, called equivalence at infinity was introduced by J. Lavoine & O.P. Misra [5]. The quasiasymptotic behaviour of distributions at infinity and at zero. It was introduced & analysed by a group of Soviet Mathematicians with V.S. Vladimirov, in all connections with investigation in quantum field theory [31].

Chapter I is devoted to the modified Stieltjes transformation $T_{r,1}$ which contains some properties based on concept of the quasiasymptotic at zero & at infinity.

Chapter II contains Abelian type theorems for $T_{r,1}$ - transformations of a distribution from S' .

In chapter III we have introduced Real & Complex inversion formulae for $T_{r,1}$ - transformation.

Every chapter is divided into sections. Which are 1.1, 1.2, etc. Hence 2.1 means the first section in the chapter two.

The conventional triple numbering system is used in the dissertation. For example (2.1.5) means fifth equation in first section in the second chapter.