

Dedicated to the 35th anniversary of the University of Baia Mare

POWER SERIES SOLUTIONS OF SOME CAUCHY PROBLEMS

by

Viorica MURȘAN

Abstract. In [2], W. Walter introduces a Banach algebra of power series and gives two applications of this algebra, one for an existence and uniqueness proof of a solution for an initial value problem and the other a proof of the implicit function theorem.

The purpose of this note is to show that the method from [2] can be used to prove the existence and uniqueness of power series solutions of some Cauchy problems for first order differential equations and system of differential equations with linear deviating of the argument.