

UNIQUENESS OF THE SOLUTION OF THE
INVERSE PROBLEM OF SCATTERING THEORY
FOR STURM-LIOUVILLE OPERATOR WITH
DISCONTINUOUS COEFFICIENT

Abstract

In the present work , on the half line the inverse problem of scattering theory for a second order differential operator with a discontinuous coefficient is considered and the following results are obtained:

- a) the expansion formula in terms of the eigenfunctions is obtained and the scattering data is defined;*
- b) to solve the inverse problem the fundamental equation derived;*
- c) the uniqueness of the solution of the inverse is proved.*