

Dirac systems that contain discontinuity conditions

Tuba GULSEN¹, Etibar S. PANAKHOV^{1,2}

¹ *Department of Mathematics, Firat University, Elazig, Turkey*

E-mail: tubagulsen87@hotmail.com, epenahov@firat.edu.tr

² *Institute of Applied Mathematics, Baku State University, Azerbaijan*

Abstract: Boundary value problems which contain transmission conditions inside a finite interval have been studied in [1–3]. This type of problems may have discontinuities in the solution or its derivative at an inner point of the interval and arise in many areas of natural sciences. For example, heat and mass transfer, mechanics, electronics, radio, geophysics. Direct and inverse problems for Dirac differential equation with transmission conditions have been studied in [4–6]. The aim of this paper is to study a Dirac system which contain transmission conditions inside a finite interval.

Keywords: Dirac systems, transmission conditions, discontinuous boundary-value problems, eigenvalues, eigen-vector functions

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