Source Identification Problems for Two Dimensional Neutron Transport Differential and Difference Equations

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Abstract: In this study, an inverse problem concerning two dimensional neutron transport equation with a time-dependent source control parameter is considered. For the approximate solution of this problem a first order of accuracy difference scheme is constructed. Finite difference schemes are presented for identifying the control parameter. Stability inequalities for the solution of this problem are established. The results of a numerical experiment are presented, and the accuracy for this inverse problem is discussed.

Keywords: Source identification problem, Two dimensional neutron transport equation, difference scheme.

2010 Mathematics Subject Classification: 65M12, 65M06, 82D75

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