On source identification problem for delay parabolic equations

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Abstract: This is a joint work with Assoc. Prof. Dr. Deniz Agirseven, Trakya University, Edirne, Turkey. Delay parabolic equations have important applications in a wide range of applications such as physics, chemistry, biology and ecology and other fields. For example, diffusion problems where the current state depends upon an earlier one give rise to parabolic equations with delay. Identification problems for partial differential equations take an important place in applied sciences and engineering applications and have been studied by many authors (see, e.g., [1]-[4] and the references given therein). However, the well-posedness of the source identification problem for a delay parabolic equation is not well-investigated (see [5-6]). In this paper, we investigate the source identification problem for a delay parabolic equation with the Dirichlet condition. The stability estimates in Hölder norms for the solution of this problem are established. Stable difference schemes are presented.The stability estimates in difference analogue of Hölder norms for the solution of these difference schemes are established.

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