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Parameter Identification in a Parabolic Partial Differential Equation from the Overspecified Data.

We consider a time-dependent linear diffusion equation with initial and boundary data. The key aim of this identification problem is to determine time dependent diffusion coefficient from the Overspecified data. Several finite-difference schemes are used to determine the solution and the time dependent coefficient. The accuracy and stability of the methods are discussed and compared. Numerical examples are presented to demonstrate relevant features of the developed computational schemes. (Received September 10, 2019)