Title: **Contructing unconditionally time-stable numerical solutions for mixed parabolic problems.**

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With the aim to remove the time discretization limitations imposed by the stability requirements of explicit finite difference schemes, the authors combine the Fourier method to solve parabolic differential equations with a semi-implicit (Crank-Nicholson) scheme. The resulting scheme is both, consistent and unconditionally time stable.

Analyzes of consistency and stability are included in the paper as well as a description of the algorithm for computing numerical solutions.

A numerical example dealing with the equation $u_t(x,t) = u_{xx}(x,t)$ with boundary conditions: $u(0,t) = 0,\ t > 0$; $u(1,t) = 0,\ t > 0$ and $u(x,0) = \sin(\frac{\pi x}{2}),\ 0 \leq x \leq 1$ is presented and compared with the exact solution and the results form a previous scheme [1] that uses an explicit finite difference scheme.

1. Jódar, L., Caudillo Mata, L.A. *A Low computational cost method for solving mixed diffusion problems*, Appl. Math. Comput. vol. 170, no. 1, pp. 673–685, (2005).