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On the uniform stabilization of solutions of the second mixed problem for a parabolic equation. (English. Russian original) [Zbl 0554.35055](#)

[Math. USSR, Sb. 47, 439-498 \(1984\)](#); translation from *Mat. Sb., Nov. Ser.* 119(161), No. 4(12), 451-508 (1982).

The author studies the stability of the solution of the second parabolic equation:

$$\partial u / \partial t = \sum_{i,j=1}^n (\partial / \partial x_i)(a_{ij}(t, x)) \partial u / \partial x_j = \nabla_x A(t, x) \nabla_x u,$$

$(t, x) \in D$, $D = \{t > 0\} \times \Omega$, $\Omega \subset \mathbb{R}^n$. $A(t, x)$ satisfies some ellipticity and boundedness conditions.

The paper contains five sections. The first is introductory. In the second a class of uniqueness close to Täcklind classes is defined [see *S. Täcklind*, *Nova Acta Soc. Sci. Upsal.*, IV Ser. 10, No. 3, 1-57 (1936; [Zbl 0014.02204](#))]; accordingly, a class of appropriate admissible initial functions is introduced. The third section contains the proof of a fundamental inequality, satisfied by the solution. In the fourth part, some useful properties of the associated Green function are pointed out. The last section is dedicated to the stabilization of the solution; the proofs rely on the previous preparatory sections.

Reviewer: [I.Toma](#)

MSC:

[35K20](#) Initial-boundary value problems for second-order parabolic equations

[35B35](#) Stability in context of PDEs

Cited in 1 Review
Cited in 2 Documents

Keywords:

[stability](#); [uniqueness](#); [Green function](#); [stabilization](#)

Full Text: [DOI](#)