

# THE FIRST INITIAL-BOUNDARY VALUE PROBLEM FOR PARABOLIC EQUATION WITH SINGULARITY

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In this work we consider an initial-boundary value problem with the first homogeneous boundary condition for parabolic equation of the second order with coefficients independent of  $t$  and with strong singularity of solution in the cylinder  $\overline{Q}_T = \overline{\Omega} \times [0, T] \subset R^3$  ( $\Omega \subset R^2$  is a bounded convex domain).

Following the theory of the boundary value problems for the second order elliptic equations with compatible and incompatible degeneracy of initial data (see [1], [2]), a solution to this problem is defined as an  $R_\nu$ -generalized one. Such a definition of solution allowed to study its existence, uniqueness in the weighted Sobolev space.

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## REFERENCES

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