

LINEAR PROBLEM OF TRAIN TUNNEL ENTRY WITH FORMATION OF VARIABLE WIDTH ISOBARIC WAKE

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ABSTRACT

The article considers a linearized non-stationary problem of train movement with the formation of an isobaric wake in a tunnel of variable width. The influence of the kinematic and geometrical characteristics of the pressure distribution flow, which leads to the emergence of a force, has been established. The complex potential and its partial derivatives are expressed using the Terentiev A.G. formula. The research results can be useful in assessing and calculating the force impact on high-speed trains when passing through various structures: tunnels, fences, etc., as well as on a vessel moving in a canal.

KEYWORDS: *Aerodynamics, Linearized Non-Stationary Problem, Complex Potential, Partial Derivatives, Complex Velocity, Hydrodynamic Flow Characteristics, Drag Coefficient.*

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