

About The Algorithm Solution Of A Planned Channel Problem

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Abstract

In the local coordinate system, he

$$\begin{pmatrix} \hat{e}_x \\ \hat{e}_y \\ \hat{n} \end{pmatrix} = \begin{pmatrix} \cos \mathcal{U} & \sin \mathcal{U} & 0 \\ \sin \mathcal{U} & \cos \mathcal{U} & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} \tilde{e}_i \\ \tilde{e}_j \\ \tilde{e}_k \end{pmatrix}, \quad (9)$$

which we will use in this work.

2. Governing Equations

Let us consider the problem of the evolution of the bottom surface $z = \eta(t, x, y)$ in a channel with

3. Bringing the equations of the problem into a Cartesian coordinate system

According to definition (9), the local coordinate system x, y, z is related to the Cartesian absolute coordinate system

