

عنوان مقاله:

Numerical Simulation in a Dynamic Regime of Natural Gas Flow in the Pipeline Network

محل انتشار:

مجله تکنولوژی گاز، دوره 8، شماره 1 (سال: 1402)

تعداد صفحات اصل مقاله: 85

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خلاصه مقاله:

The purpose of this article is to present a comment manifests the pressure and flow supply in the case of consumptions in dynamic regime. The mathematical model is a system of nonlinear differential equations dealing with a compressible flow with the term of pressure drops, the temperature is considered constant and equal to that of the environment. The boundary conditions are given and the initial solution is unspecified, after the transitory solution, the periodic dynamic mode is established in a stable way. The discretization method used is that of fine differences with a structured mesh. The method of resolution is semi-implicit with a step of time which strongly depends on the number of which ensures convergence. The chosen method is stable over time. The main results obtained are the validity of the method used to solve a dynamic problem, the precision of the calculations and the physical phenomenon .which is clearly visible from the distribution of pressures and flow rates as a function of time and position

کلمات کلیدی:

natural gas consummation, network of natural gas, Unsteady Flow, Compressible flow, dynamic regime, Finite difference method

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