

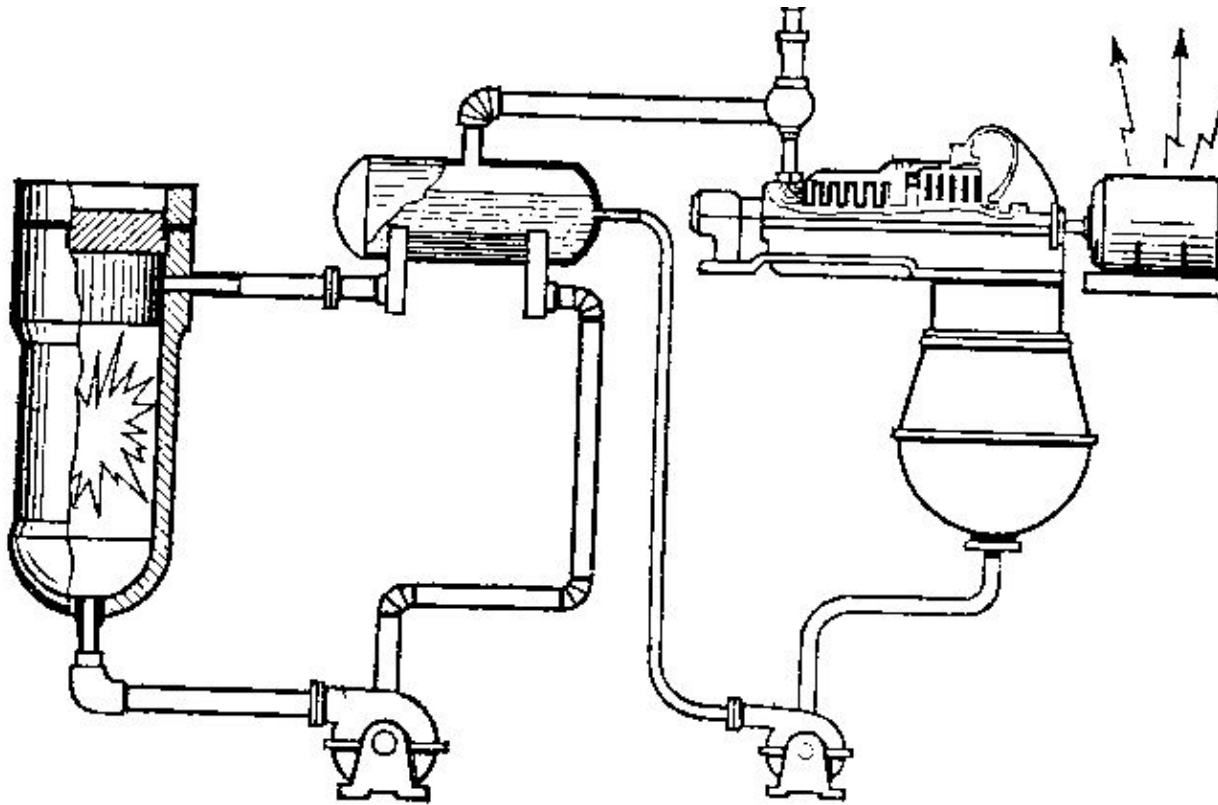
# The generalized dependence of the provided characteristics of hydraulic resistance

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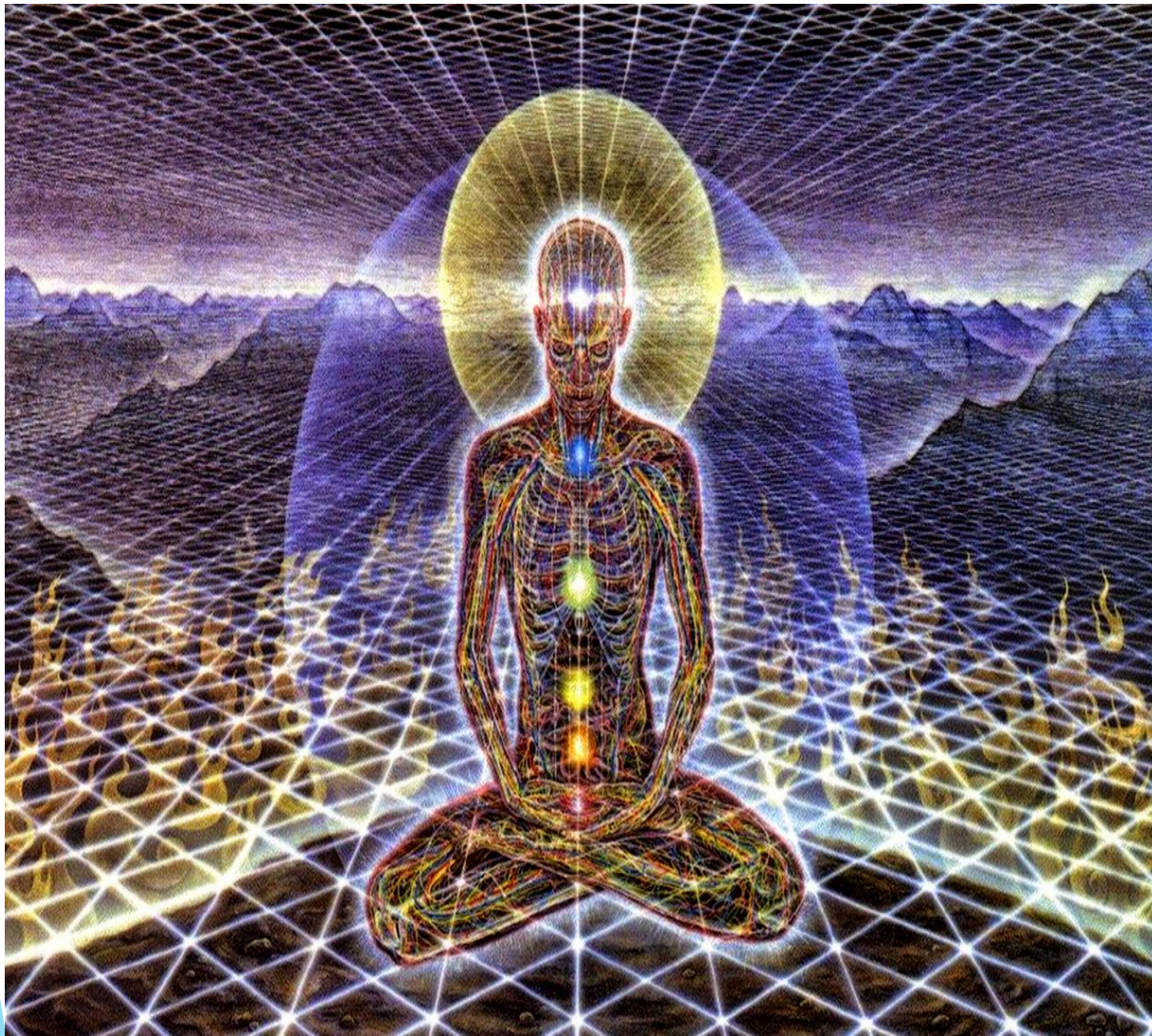






Calculation of hydraulic losses is directed on:

- reduction of losses
- increase in
- efficiency of installation in general

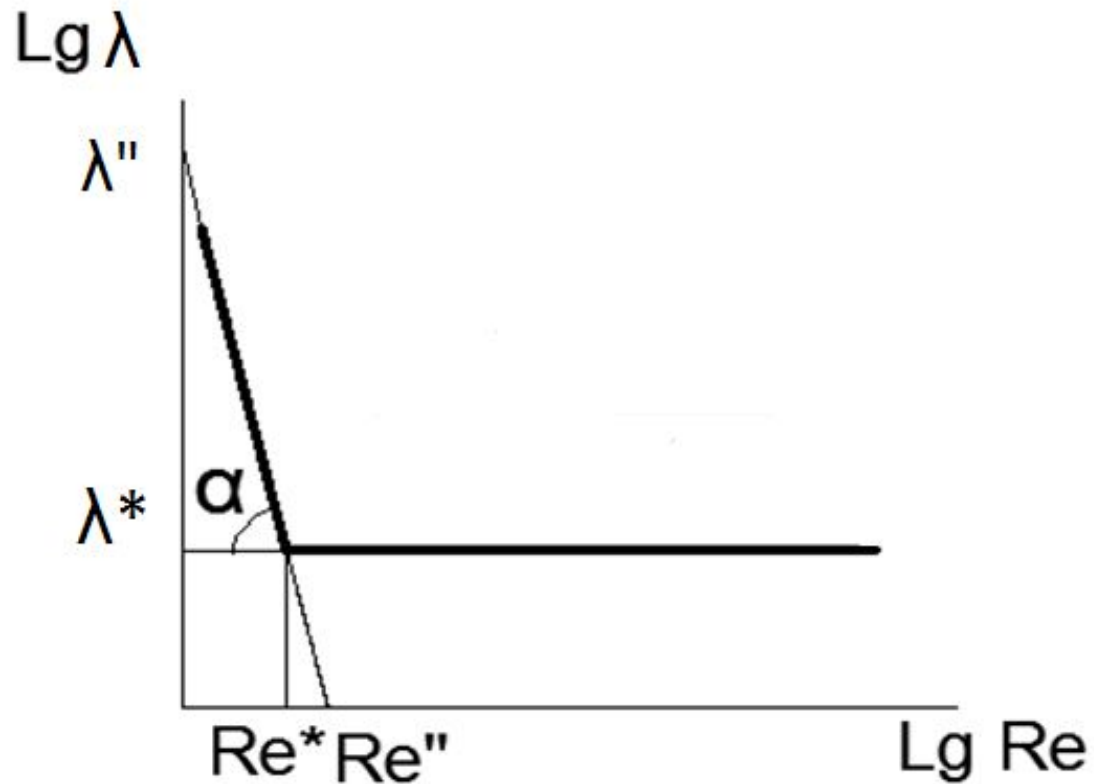


energy cost

monetary expenses



# Empirical transformation



$\lambda$ - coefficient of hydraulic resistance

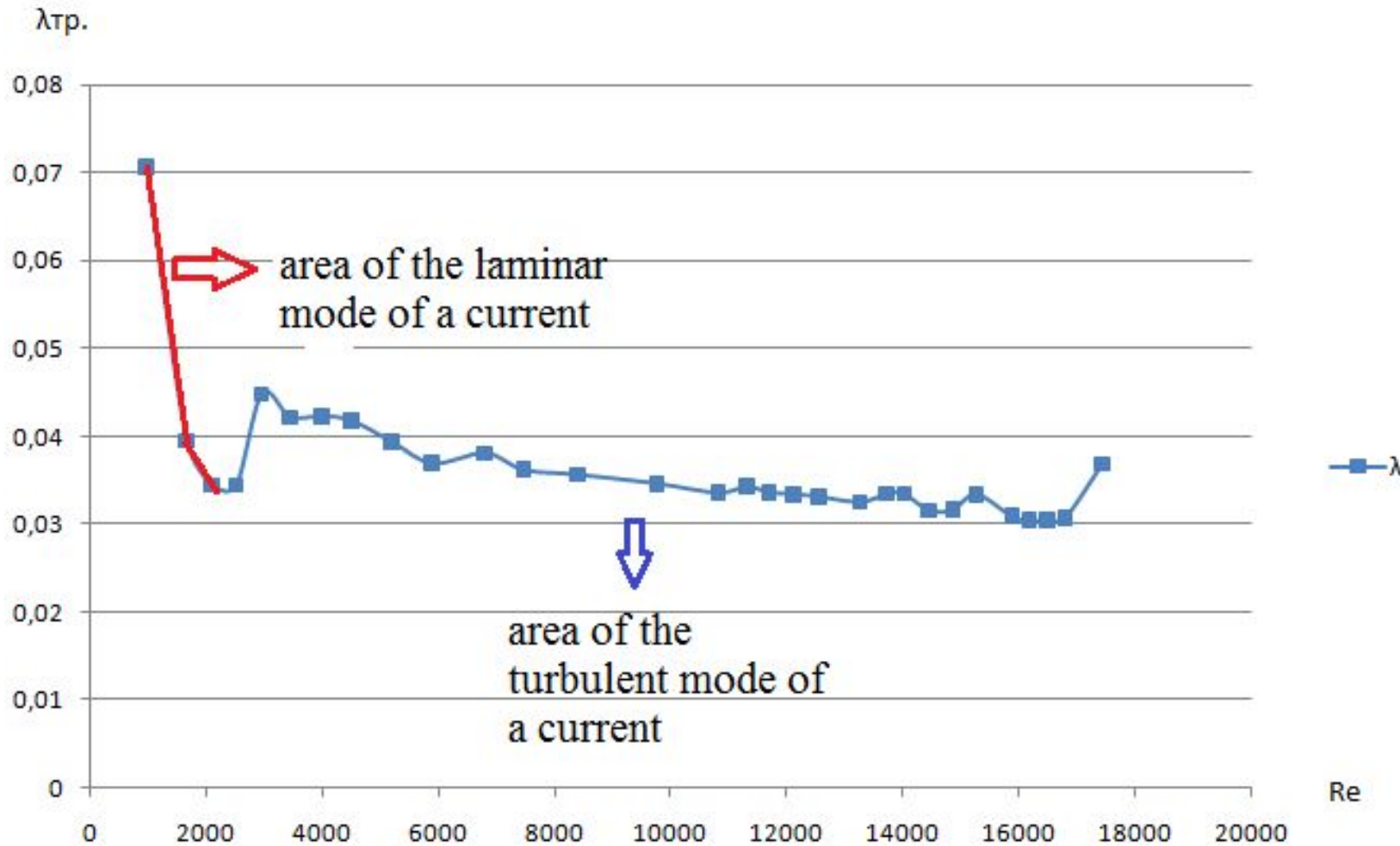
$Re$ - Reynolds's number

$\alpha$ - tilt angle of the performance hydraulic curve

$\lambda^*$ ,  $Re^*$ -of coordinate of a point of the beginning of a turbulent flow

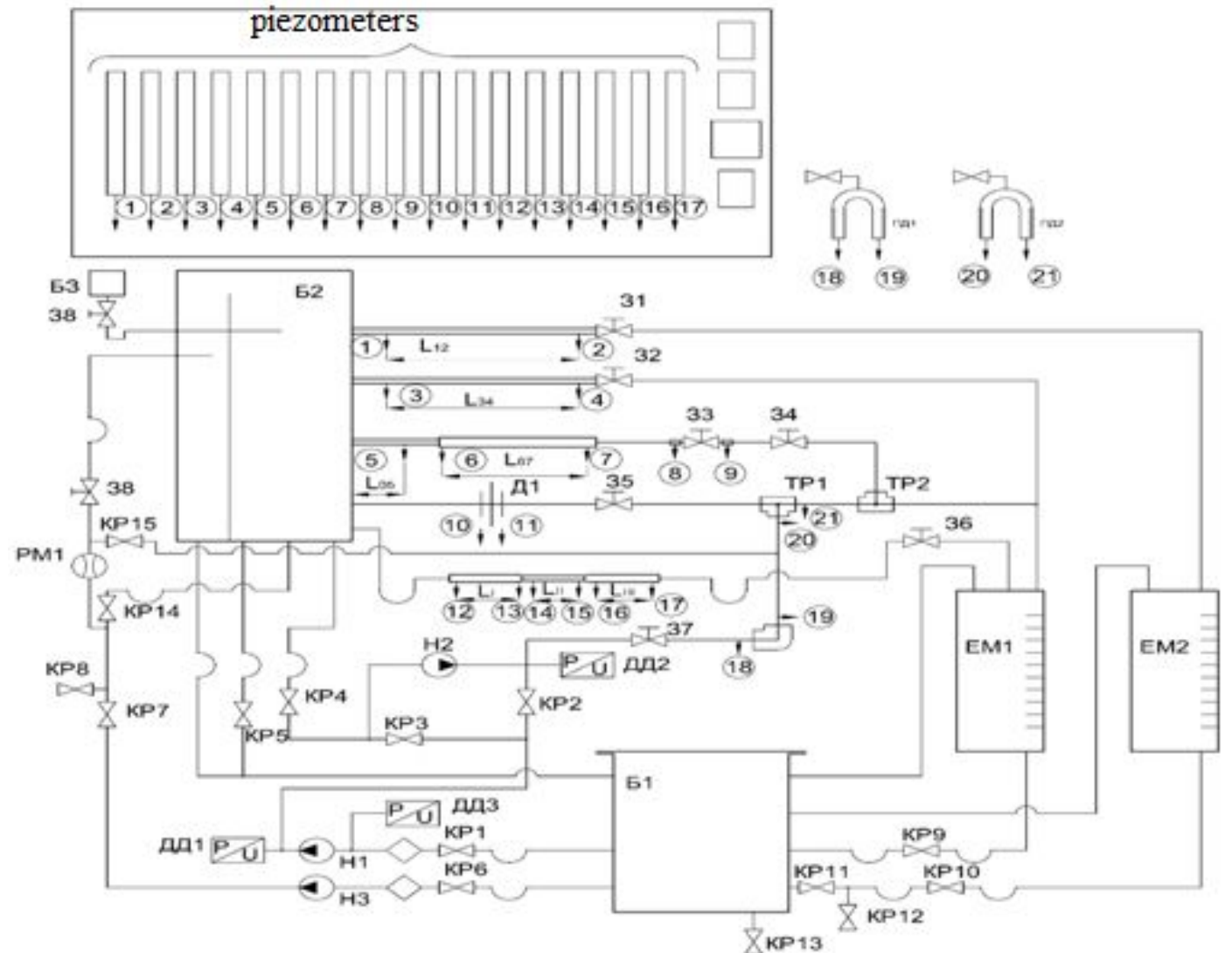
$\lambda''$ ,  $Re''$  - coordinates of crossing of the prolonged site with axes of coordinates

# The model describing a current of the heat carrier

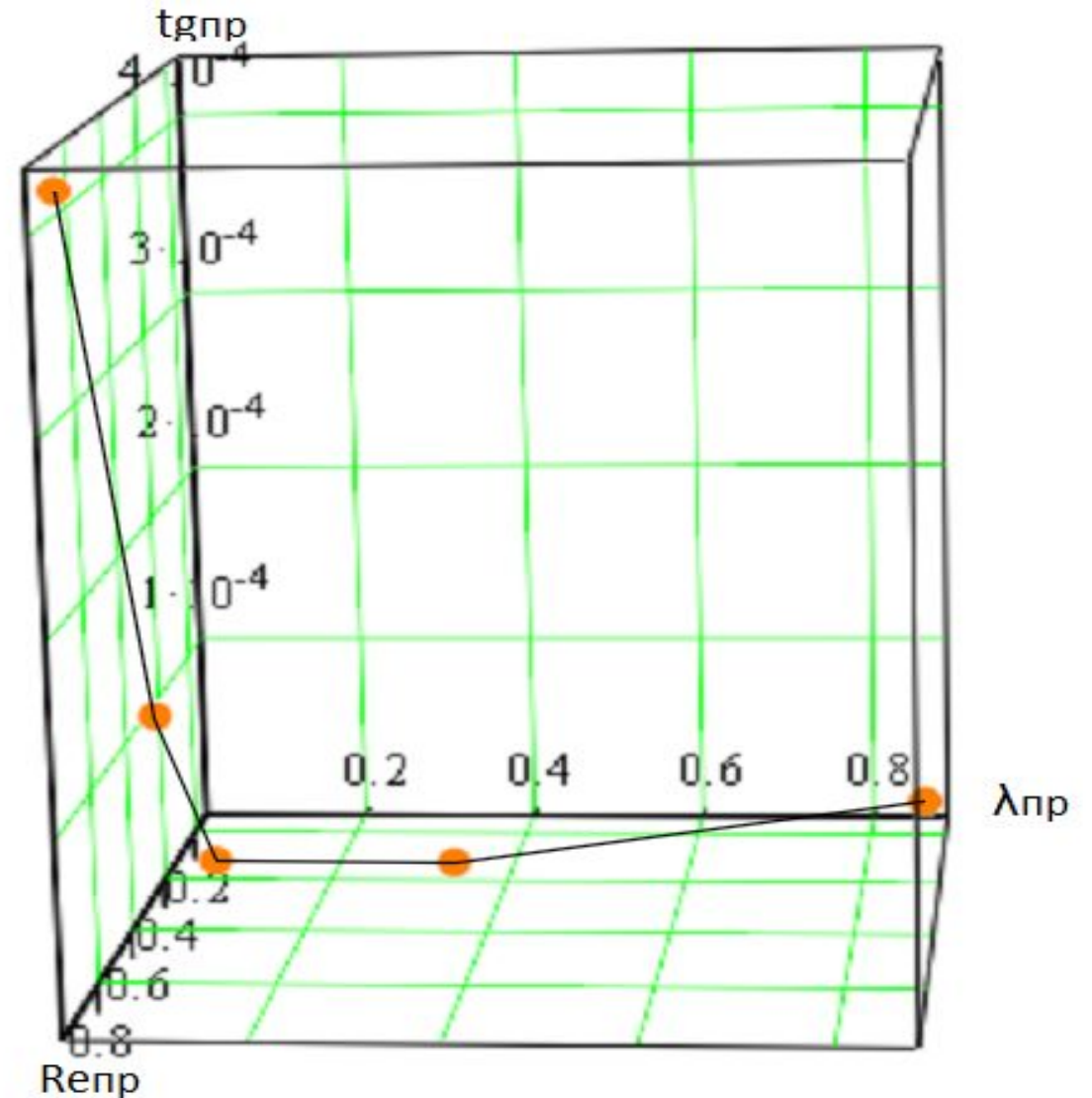


# Problems

- 1. To collect experimental information on hydraulic characteristics



- ▶ 2. To develop an information processing technique
- ▶ 3. To receive the generalized dependence



- ▶ 4. To develop a method of the forecast of hydraulic characteristics for the received generalized dependence.
- ▶ 5. To compare result to the existing forecast methods.

# Abstract

In nuclear power engineering continuous increase in a range of the used heat carriers results in need of a study and accumulation is more increasing than the database of parameters, to carrying out expensive experiments, and also need of processing and generalization of results. In this operation the alternative model which will help to reduce expenses of time and means in case of the decision of the specified tasks is offered. The offered forecasting method is based on empirical conversion of results of the pilot studies and theoretical data obtained in case of a research of a current of different types of the heat carrier in different circuital systems.

Despite deep study of various branches of hydrodynamics, this subject provided in the foreshortening stated above is urgent.

The development of a method of the forecast of hydraulic characteristics more precisely reflecting features of real systems is based on creation of the universal mathematical model for the description of a hydraulic path regarding simulation of area of transient phenomenon from a streamline flow of the heat carrier to turbulent.

Thank you for your attention

