

ABSTRACT

Master's thesis contains 100 pages, 44 formulas, 36 figures, 35 tables and 43 sources in the list of references.

The relevance of the work is aimed at enhancing Ukraine's capacity in the application of alternative energy sources, to which encourages scientific progress and difficulties with the supply of traditional energy resources.

Objective: To analyze the achievements of the wind power industry in the low speed range, and explore the possibility of using wind energy in urban areas.

Research objectives: to justify and to investigate the effect of wind flows in urban development, to establish the possibility of using wind energy potential under these conditions.

The object of study of master's thesis: the energy of the wind flow.

The subject of the study is to examine the nature of the impact of wind energy on the development and possibilities of its application in the development of various alternative models.

The methods of research are methods based on the experience of world practice on the study and modeling of wind flows, which allow to approximate mathematical model to realistic conditions.

Scientific novelty consists in determining the impact of multilateral wind flows on urban development, and search for ways of rational use of wind energy under these conditions.

The work is of practical importance in the energy supply systems of buildings and structures for the development and calculation of wind energy systems.

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