

# **PATTERN RECOGNITION TECHNIQUE FOR THE QUEST OF VISUALISATION OF BIOTROPIC FORM OF TEMPERATURE AND PRESSURE WAVES**

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**Abstract.** Undoubtedly the long duration of adverse weather negatively affect a human cardiovascular system. In a number of works the lower limit of adverse weather periods – about five days – has been established. However the question on negative dynamics of the basic characteristics of weather – atmospheric temperatures and pressure – remained open. In the present work a conjunctural method of the theory of pattern recognition will be applied to the heliobiology. It is shown that the given method approaches a global-optimum of Neuman's critical area in sense of errors of recognition. As an illustration of this method efficiency it is shown that quickly relaxing short sequences of time series of atmospheric temperatures and pressure (so-called temperature waves and atmospheric pressure waves), cause growth of cardiovascular diseases, which can lead to serious organic defeats, such as myocardial infarction. It is shown that temperature waves can increase daily number of myocardial infarctions above the average value up to 90 %, and pressure waves – up to 110 %. Pressure has appeared to be more biotropic factor, than atmosphere temperature.

*Keywords:* conjunction, pattern recognition, temperature waves, myocardial infarction.