

FEATURES OF DISPERSION ANALYSIS WHILE PROCESSING DYNAMIC RHINOMANOMETER SIGNAL

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ABSTRACT

This method can be considered as respect to the improvement information-measurement technology alternative control and technical diagnostics. This method allows planning multiple repeated measurement groups, obtained on the basis of non-stationary measurement signals with priori unknown spectral properties. By using the method of piecewise-linear regression approximation of measuring signals allowed obtaining additional information about the changes in random coefficients' partial linear regression.

It is proved that the additional information, besides partial regression coefficients, carries four members of the dispersion expansion. It has been proved by a practical rhinomanometric diagnosis that an additional increase in expected measurement information can reach 40% of the original. Proposed analysis of the partial line regression dispersion method provides the additional information by means of components of the dispersion expansion signal. also was proved that studying the dynamic properties of the breathing process may improve quality diagnostic procedures.

KEYWORDS: Input Signals, Dynamic Properties, Decision-Making, Measurement Information, Dispersion Analysis, Control Object, Regression Transformation, Regression Values, Residual Dispersion, Dispersion Analysis