# COMPARISON DISCRIMINATE CHARACTERISTICS BETWEEN MODERN TNDA-PRH RHINOMANOMETER AND PREVIOUSLY METHODOLOGY

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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 . Proposed comparison of discriminate characteristics of rhinomanometry diagnostic methods for our proposed computer KPM type TNDA-PRH rhino manometer and previously methodology, using the Mahalanobis distance were used to measure the distance between the random vectors of values and generalize the concept of Euclidean distance. Experiments prove that, the proposed method in our work of rhinomanometry measurement at forced respiration has great (1.4 factor) discriminate features in comparison with traditional methods and reduces the possibility of errors when making decisions of diagnostic solutions from 0.17 to 0.06. Also the factor of time displacement between the amplitudes of the pressure signals, which had not been taken into consideration previously, which playing an important role in the diagnosis. that allows the use of this method for objective functional diagnostics of the upper respiratory tract. This work aims to develop methods and criteria that allow the differential diagnosis for pathologies of the upper respiratory tract according to rhinomanometry data.

**KEYWORDS:** Rhinomanometric Diagnosis AARM and APRM, Norms and Disorders of Nasal Breathing, Pressure Drop, Air Flow Rate, Static Model, Dynamic Model, Multichannel Measurement Module, Discrimination, Object Control, Discriminate Characteristics, Uncertain Object Characteristics, Uncertainty Conditions, Errors Possibility ,Controlling Objects States, Probability of Making Correct Decision, Mahalanobis Distance, The Factor of Time