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# EXPERIMENTAL INVESTIGATION OF DYNAMIC PROCESSES IN A MAGNETIC FLUID IN AN INHOMOGENEOUS MAGNETIC FIELD OF THE ROTATING SHAFT SEAL


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**Abstract**

*A method to determine the dynamic characteristics of the magnetic fluid in the inhomogeneous magnetic field based on the measurement of time-varying magnetic force acting on the sample with the magnetic fluid has been proposed. An experimental study of eight magnetic fluids used in rotational shaft seal has been performed. For diagnostic of magnetic fluids parameters three parameters characterized respectively the relative time-variation of the magnetic force during the studied interval, the characteristic time of change this force and its rate of change have been proposed. The numerical values of this parameters can be used to analyze the stability of*

*the behavior of the magnetic fluid in an inhomogeneous magnetic field.* References 9, figures 4, table 1.

***Key words***: magnetic fluid, seal of the rotating shaft, magnetophoresis, sedimentation stability.

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