

## **The reliability of the Electric Propulsion parameters measurement increasing**

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As far as the field of Electric Propulsion (EP) application becomes wider and requests to EP quality are increased, it is necessary to determine EP different parameters and their interconnections with high accuracy.

For many years MAI, DB FAKEL and some other Russian organizations are developing a new method increasing accuracy of parameters recording during EP (and in particular SPT) tests. This method, based on measurement results filtration, permits to increase an accuracy of thruster's integral parameters determination and to decrease stochastic errors influence onto measurement parameters accuracy (considering thrust, flow rate, discharge current and some other parameters interconnections). As a result of carried out tests and calculations, we are able to decrease measurement confidence region on 25%, to decrease time period necessary for device operational development.

Special investigations showed that in the majority of cases the stochastic deviations of recorded parameters are happened due to statistic errors occurring in the measurement lines, but the thruster itself operates sufficiently stable.

Nowadays it is developing an universal software for experimental data procession considering small stochastic deviations either in object of measurement or measurement system.