

## Lab works on metrology and mechanics of nano- and pikometer scale

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To learn methods of measuring displacements in nano- and pikometer scale we designed optical interferometers with 50-100 pm uncertainty. Accumulating and averaging method is applied to measure more small values. Thus, we measured up 2,7 pikometers.

Our interferometers perform from very-low-frequency up to gigahertz range and can be used in remote high precision measurements, highly sensitive sensors of vibration, acoustic emission.

We used no creep inverse piezoelectric effect materials for linear manipulators to perform nano and pikometer scale shifts.

Our manipulators can be applied as standards of nano- piko- and even smaller scales. The use of the manipulators as scanning devices allows to combine executable and metrological devices to perform vector positioning, which is dozen times faster than raster.