
Research on precision grating displacement measurement technology

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Grating displacement measurement technology has the following advantages: nanometer-scale repeatability, environmental adaptability, and easy dimension expansion. These advantages can meet the measurement needs of the precision manufacturing industry for the convergence of meter scale range, nanometer scale accuracy and multi-dimensional measurement capability. Our team has broken through the large-size grating production technology to improve the size and production accuracy of the measurement grating. We put forward the high-precision conical diffraction grating displacement measurement, bi-directional Doppler steering interferometric grating displacement measurement, splicing large-range grating (shape like 晶) displacement measurement etc. to solve the problem of grating displacement sensors limited by factors such as size, grating distance and optoelectronic noise interference, photoelectric noise interference and other factors lead to the problems as small measurement range, high precision limit, insufficient resolution. These technologies achieve a high precision scale ratio of the grating displacement measurement, breaking through the control and blockade in the field of high-end manufacturing from foreign authorities.



Short Bio:

Zhaowu Liu received his PhD degree in University of Chinese Academy of Sciences, China. He is an Associate Research Professor of Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China.